

MEDIÇÃO DO COEFICIENTE DE ATRITO DA SUPERFÍCIE DE PAVIMENTOS

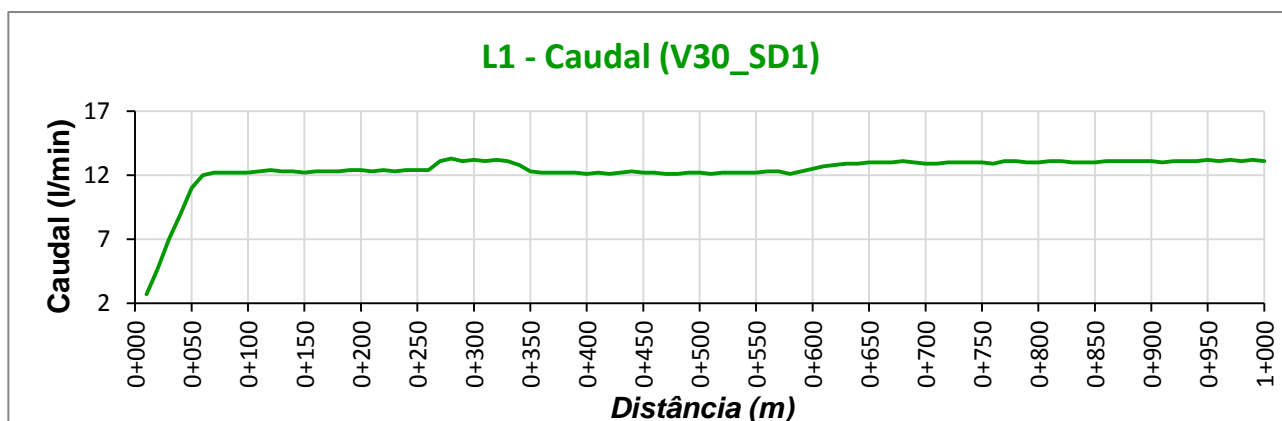
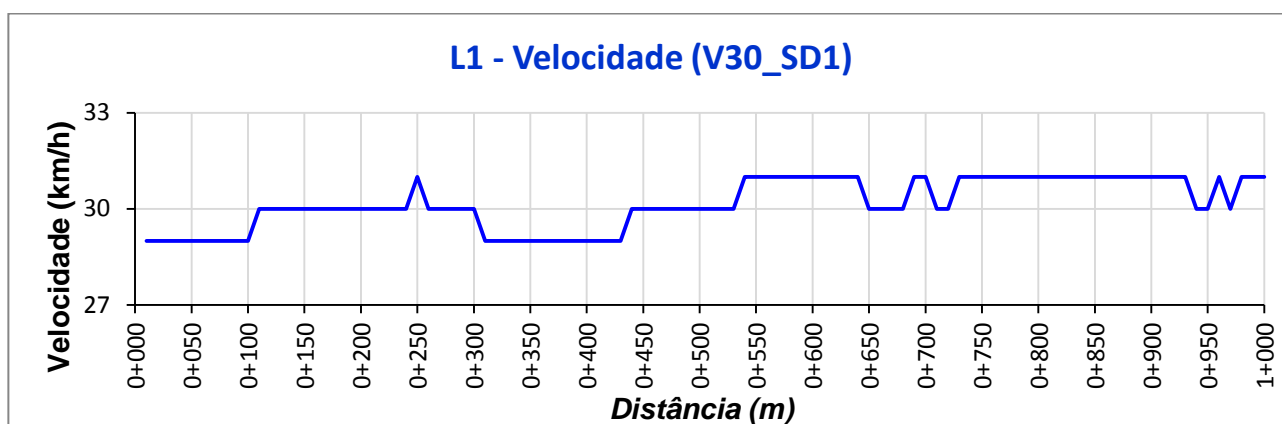
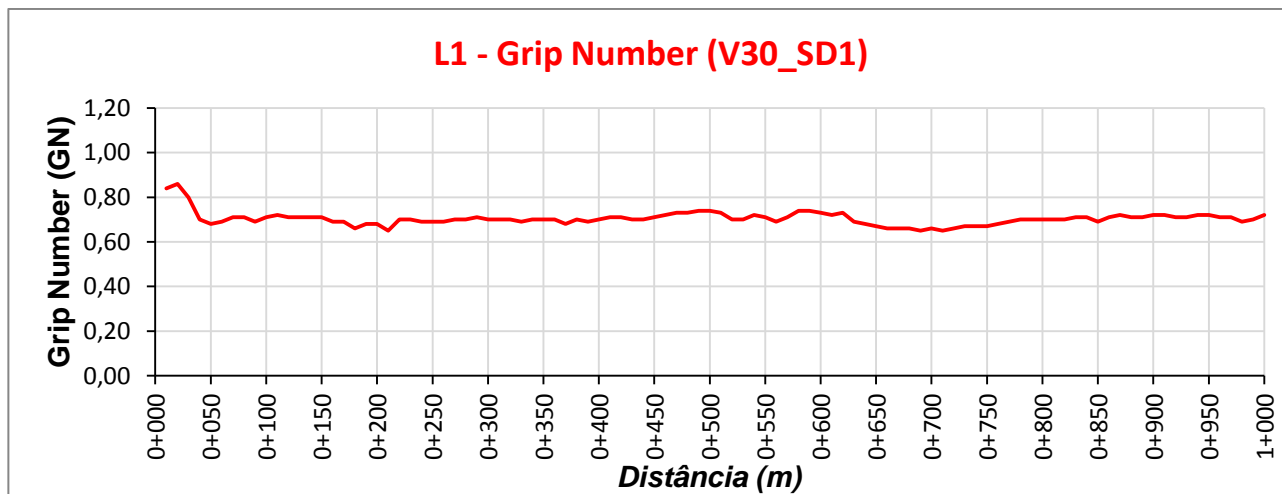
Estudo do equipamento GripTester

Anexo I - RESULTADOS DO ENSAIO DE COMPARAÇÃO

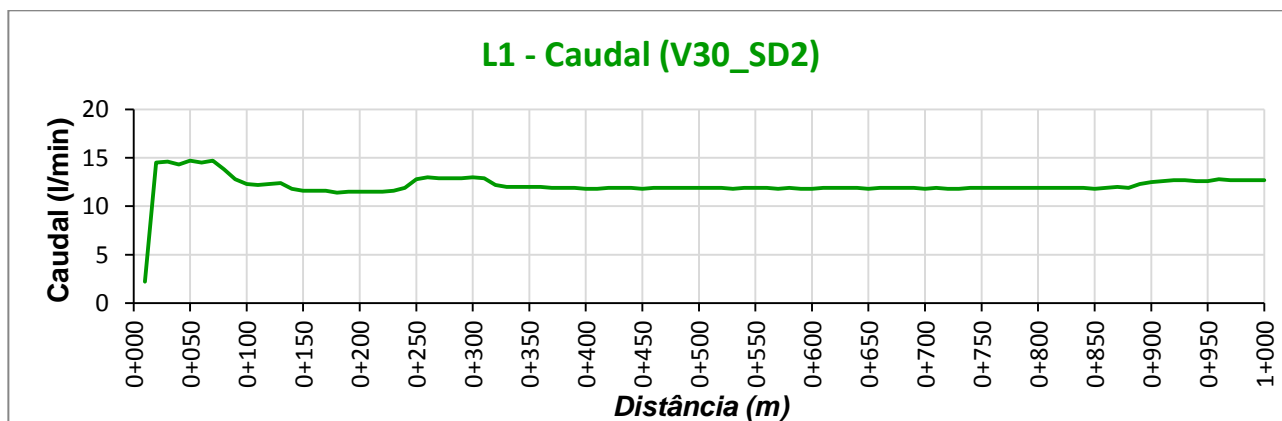
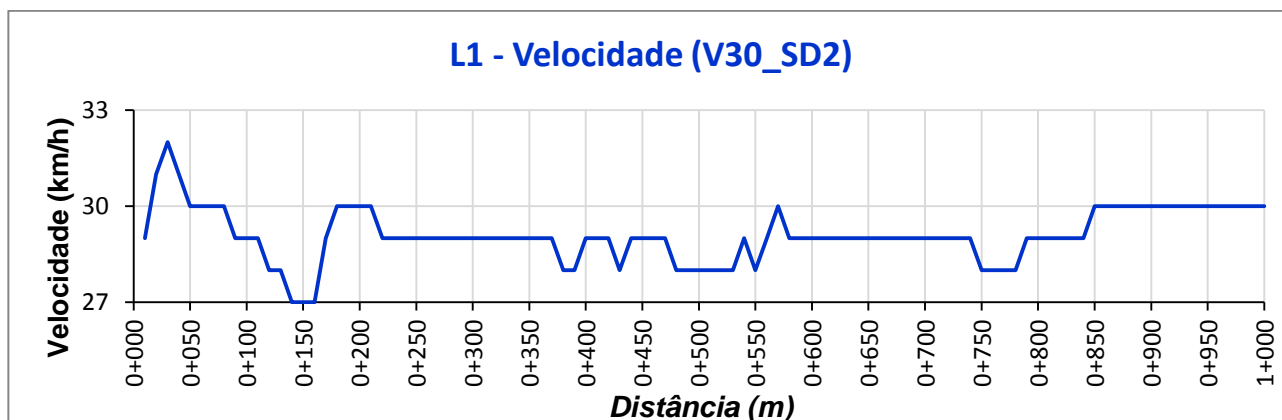
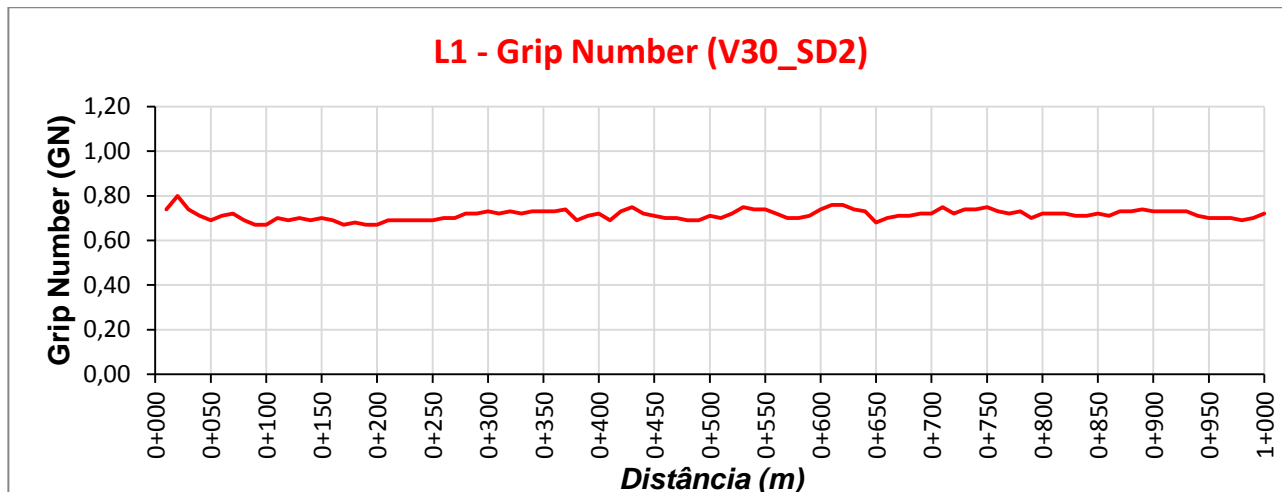
1. LABORATÓRIO 1



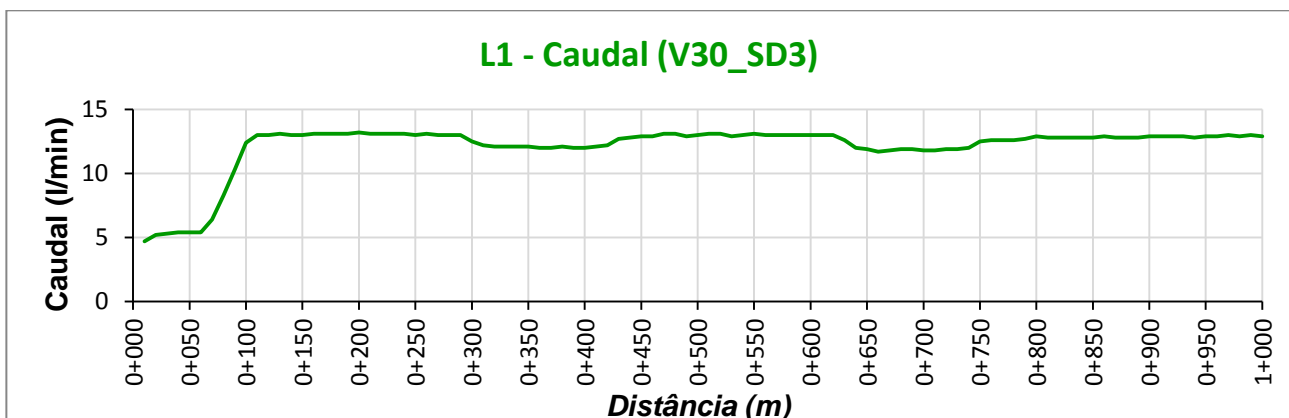
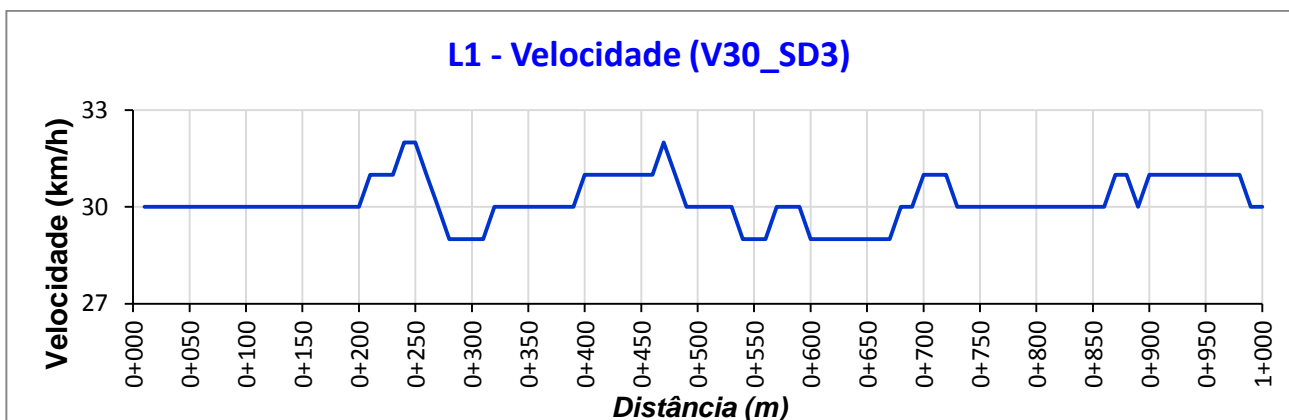
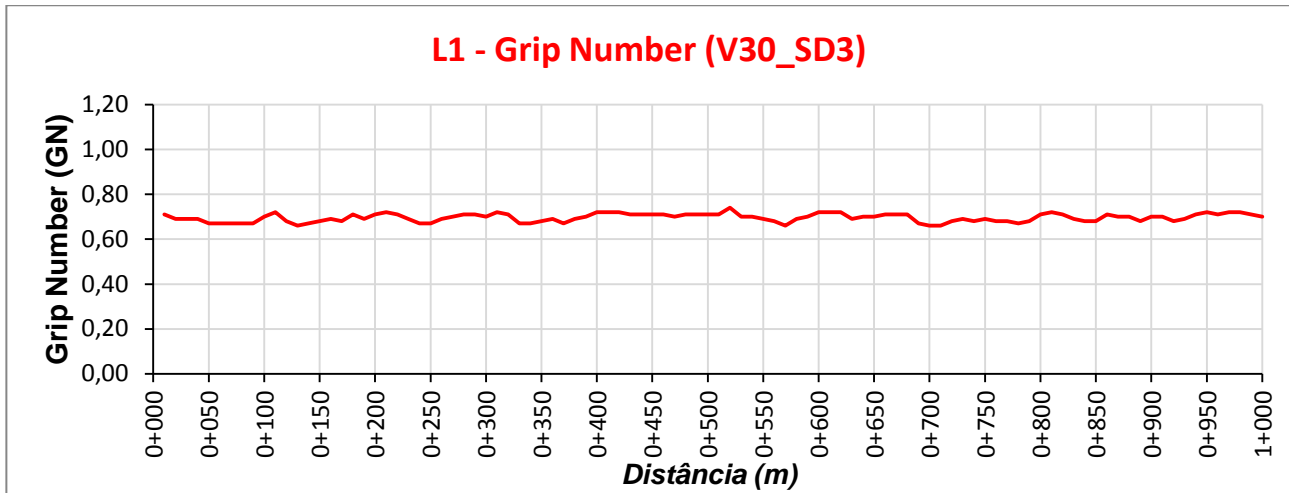
VELOCIDADE 30 KM/H



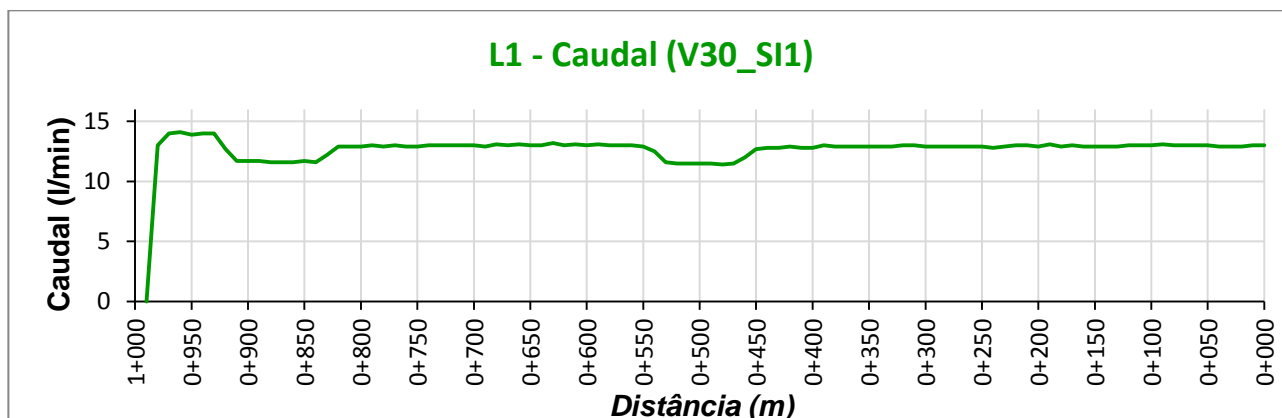
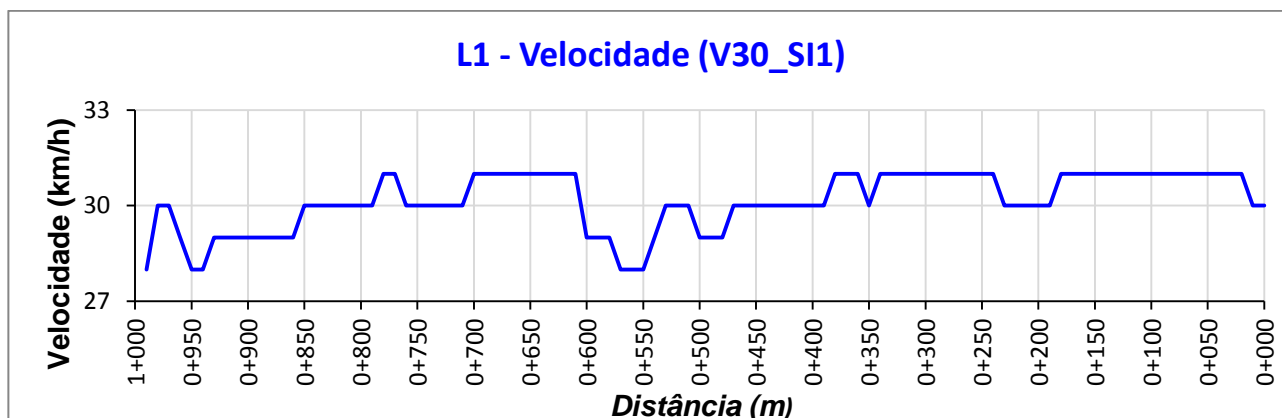
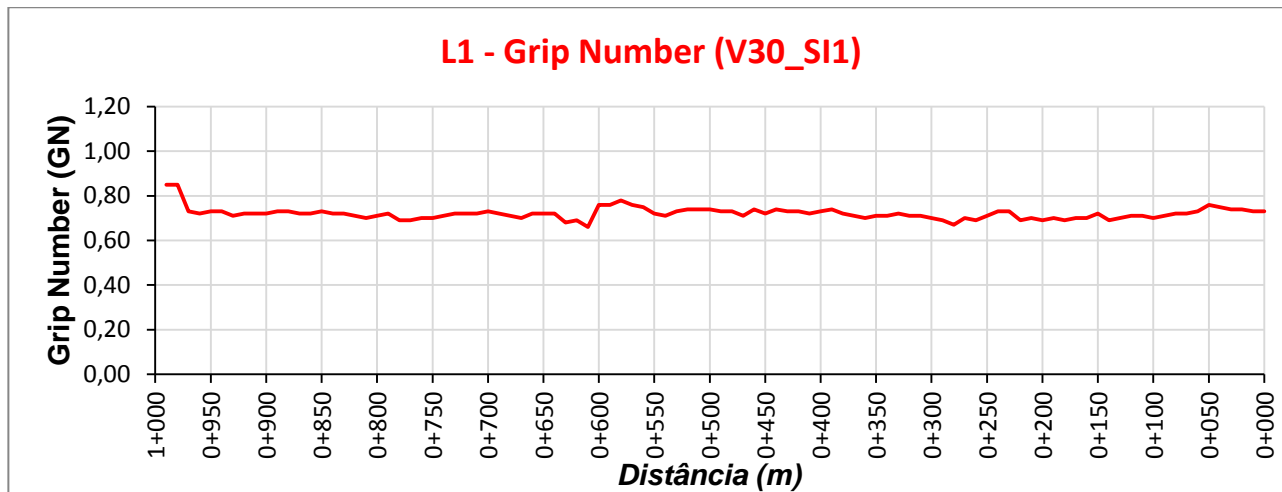
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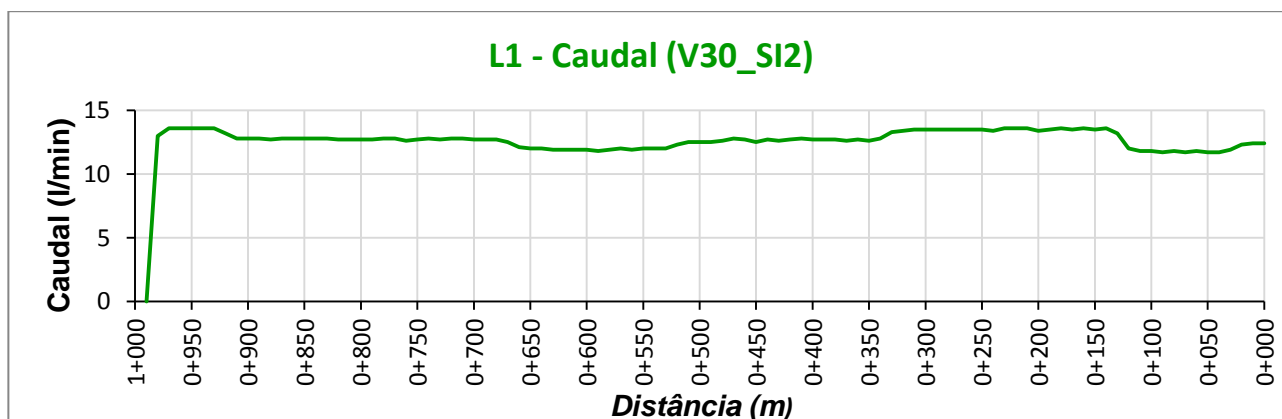
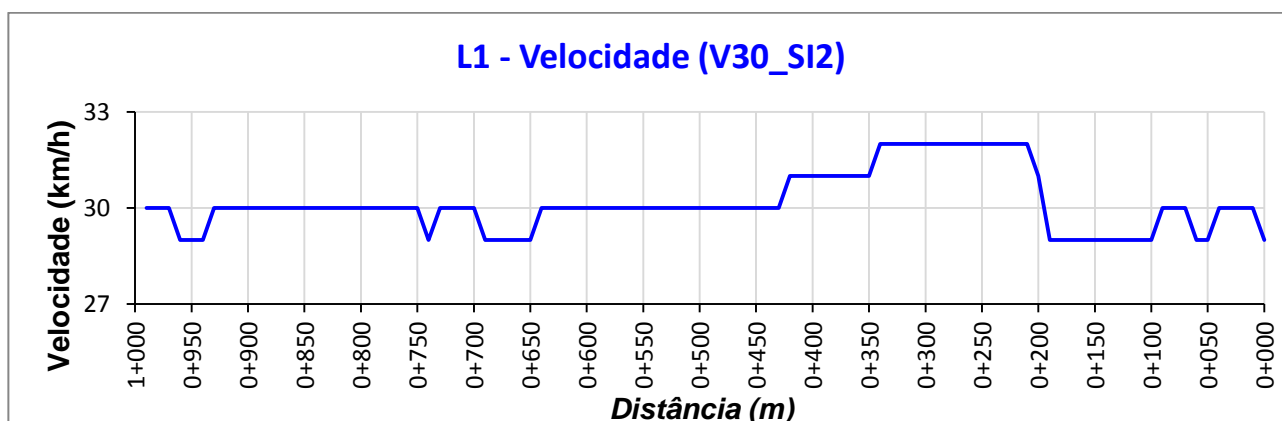
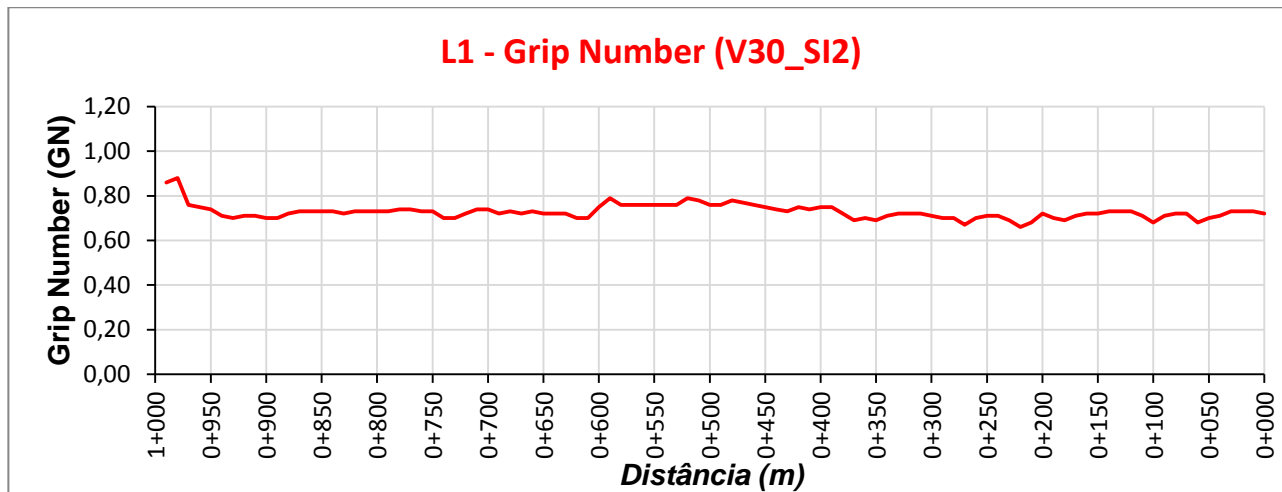
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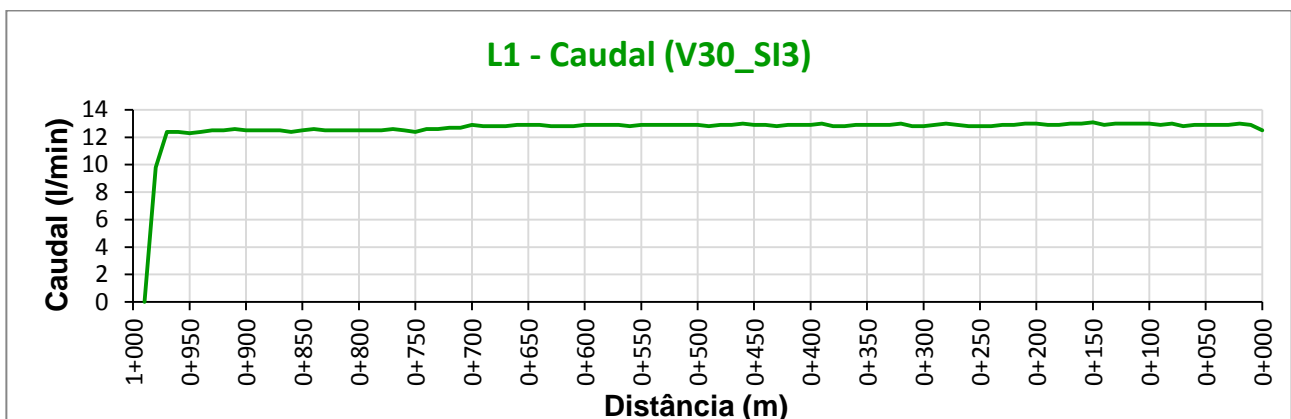
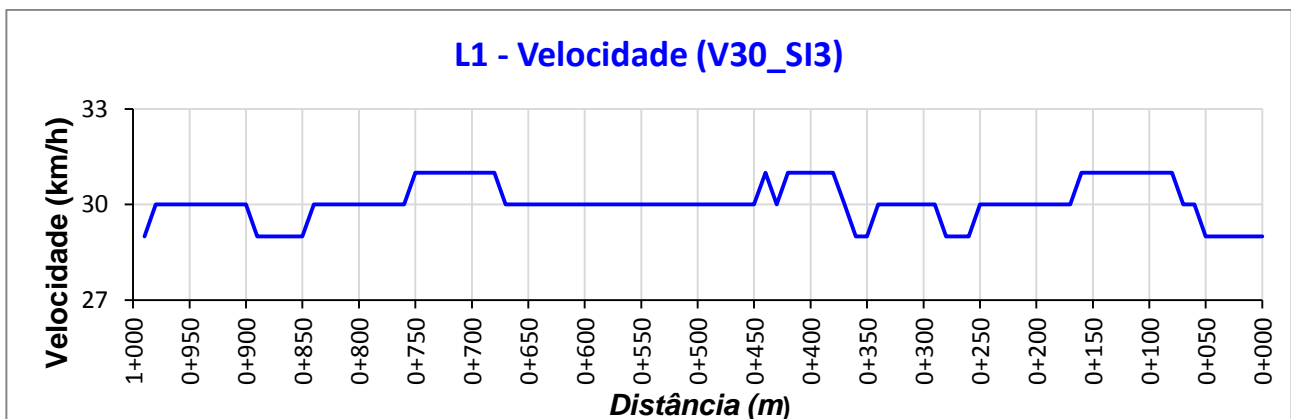
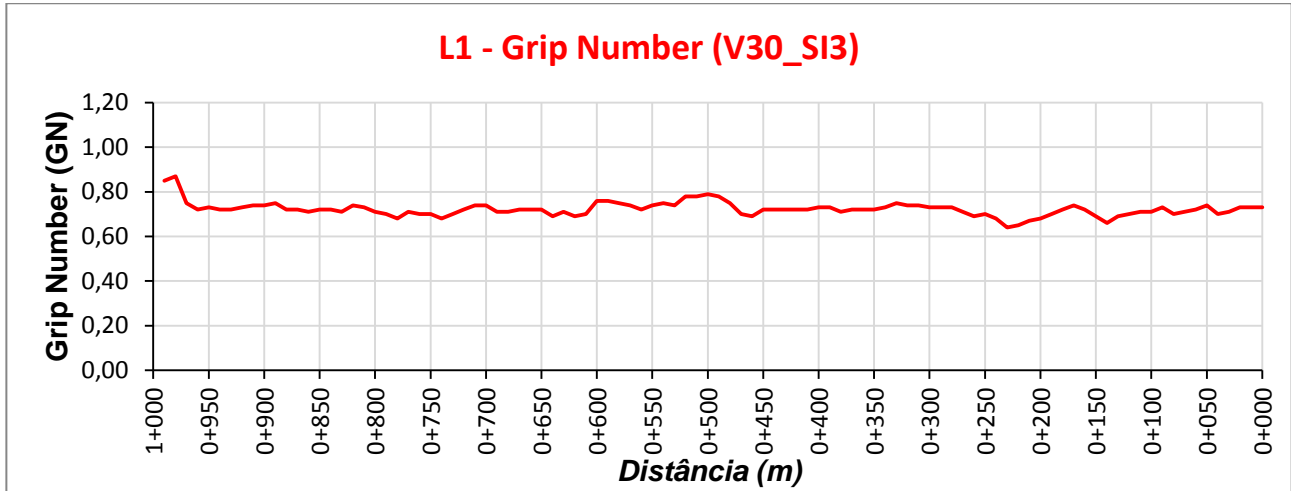
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GRÁFICOS A1.4 – LABORATÓRIO 1 – V30_SI1



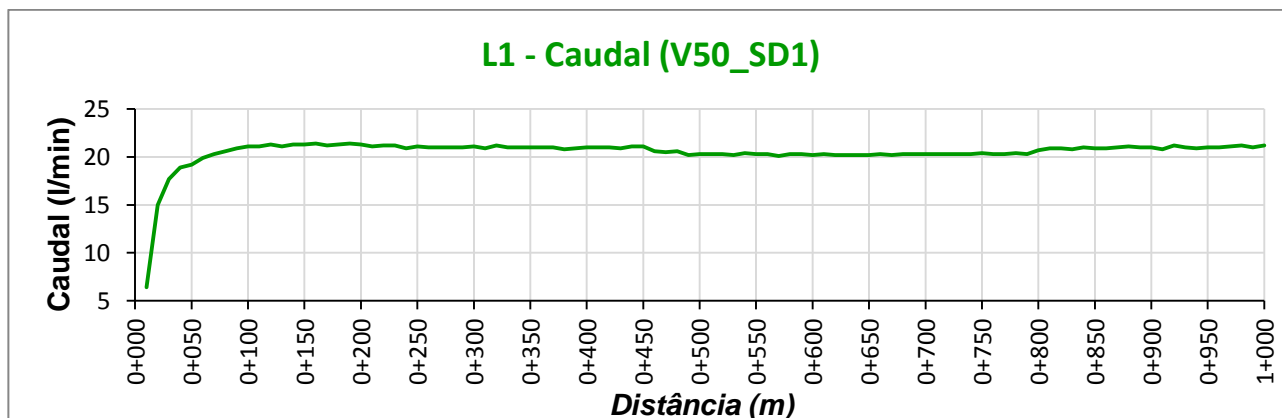
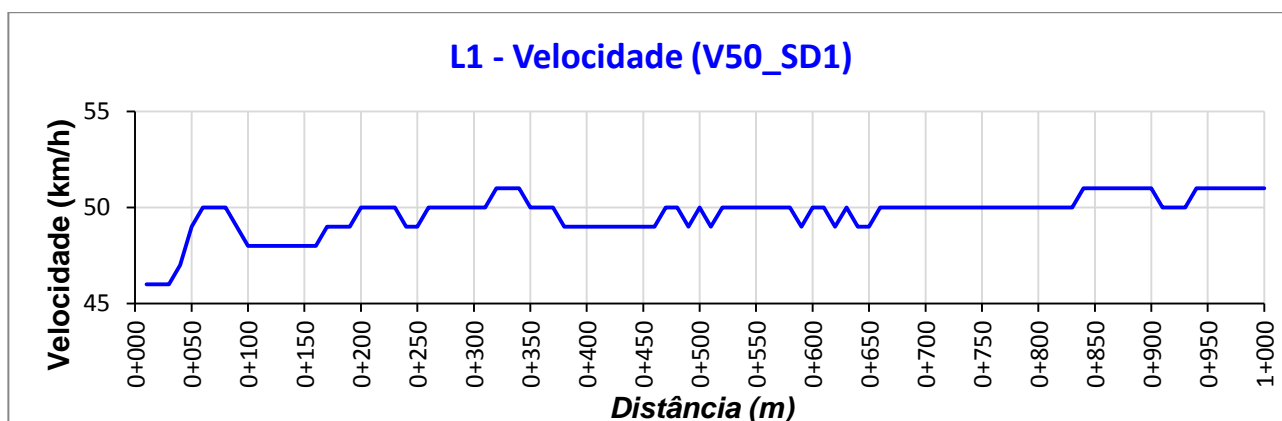
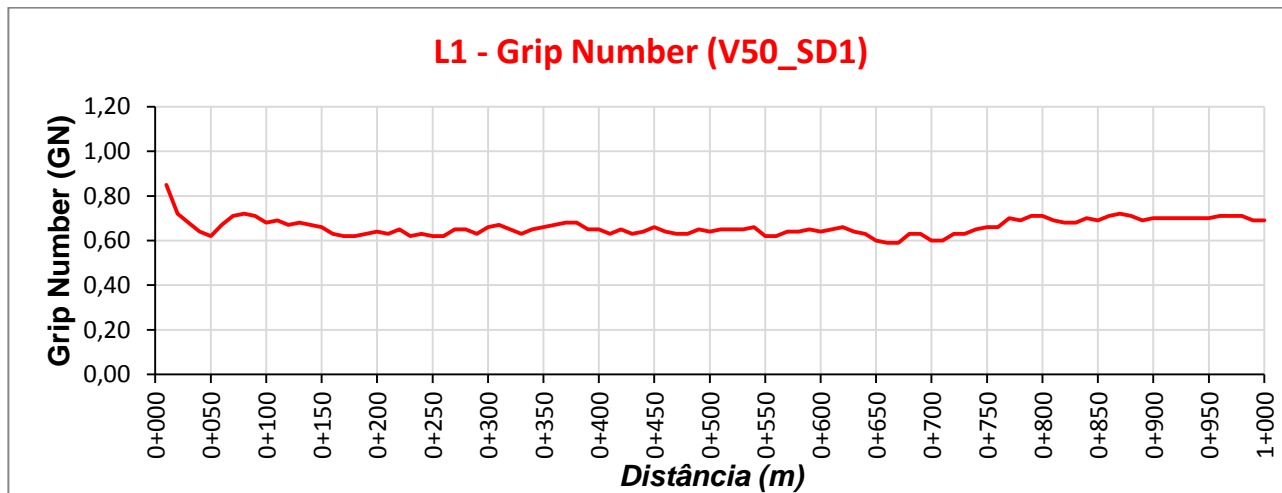
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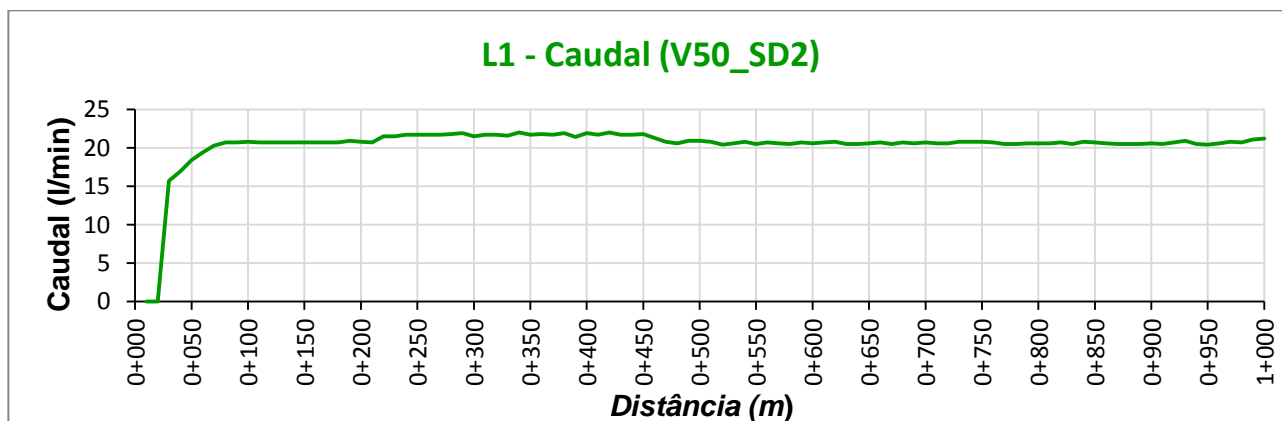
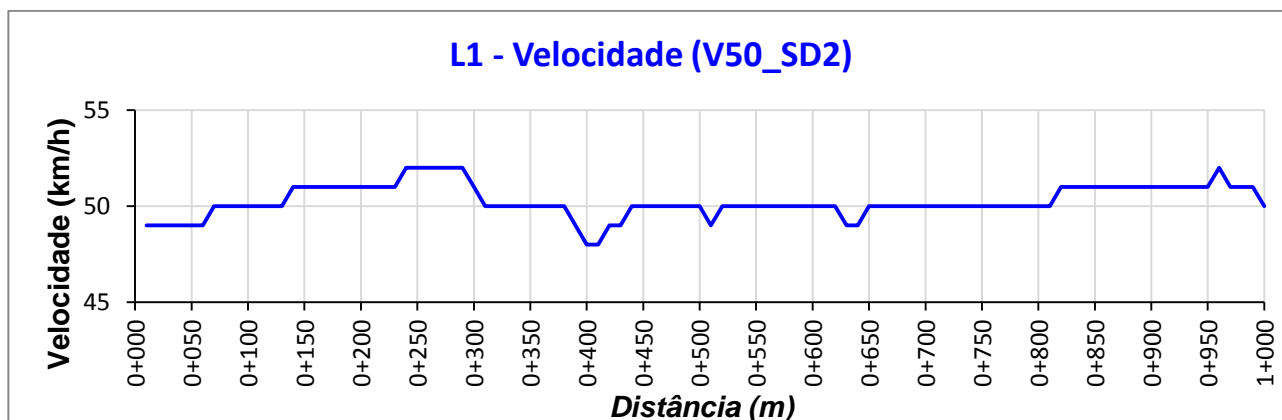
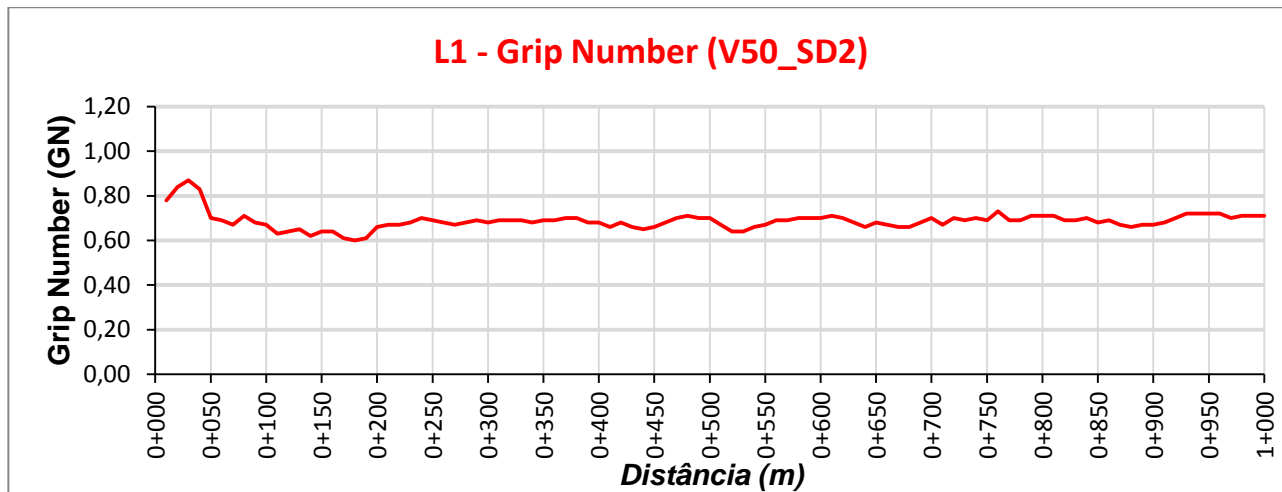
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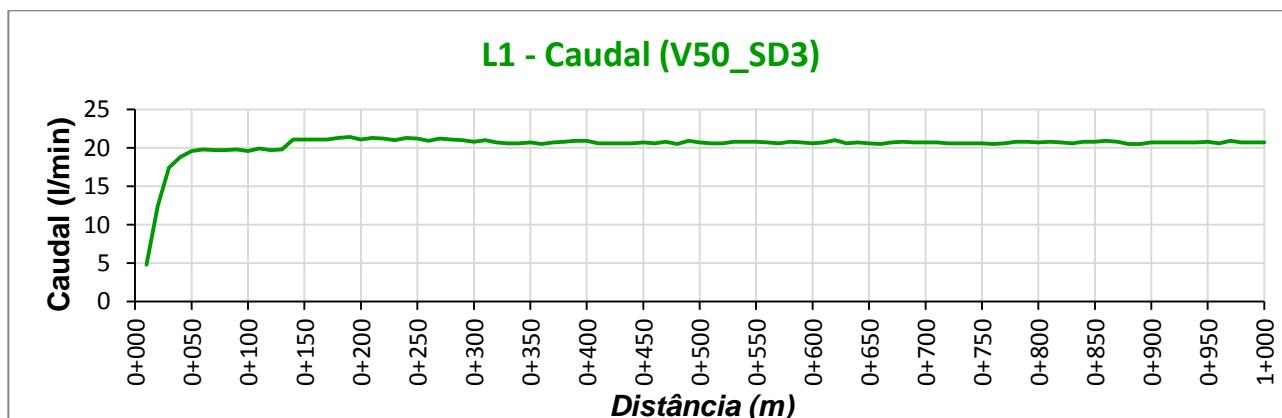
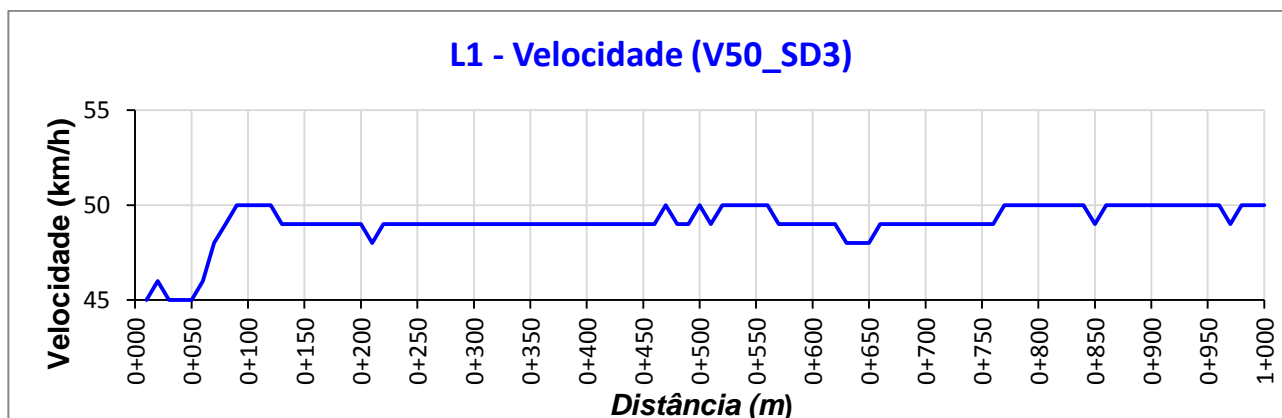
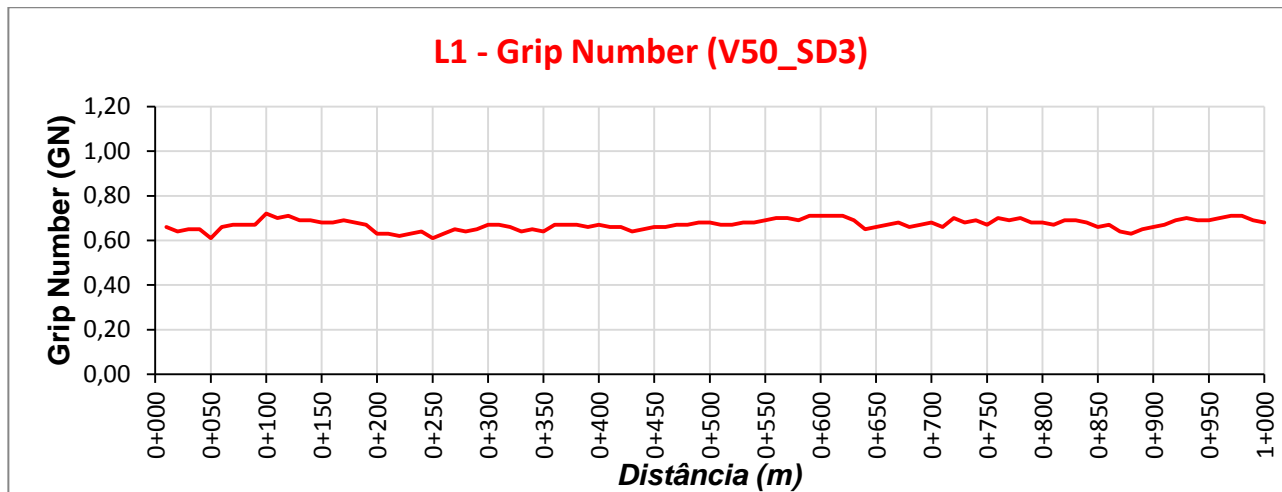
VELOCIDADE 50 KM/H



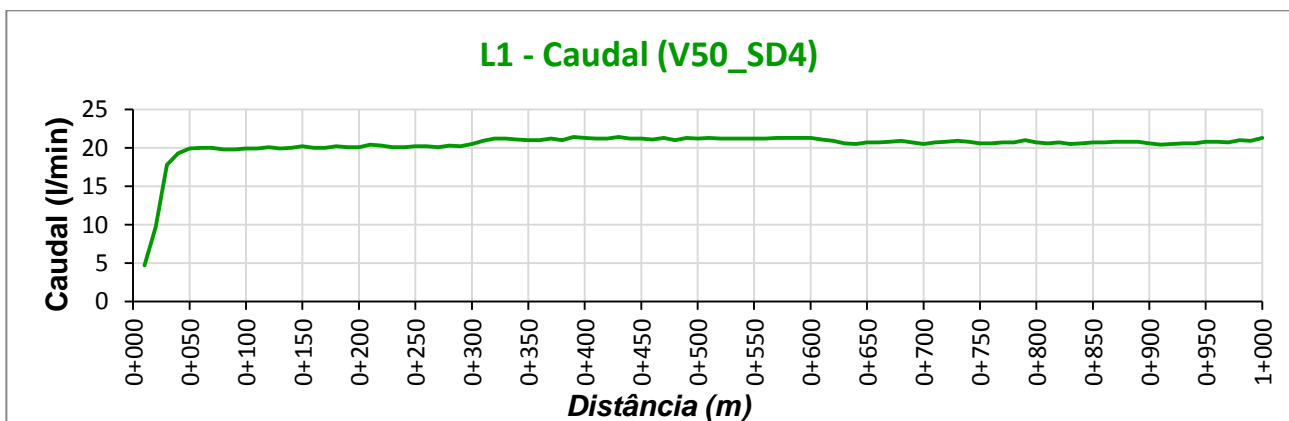
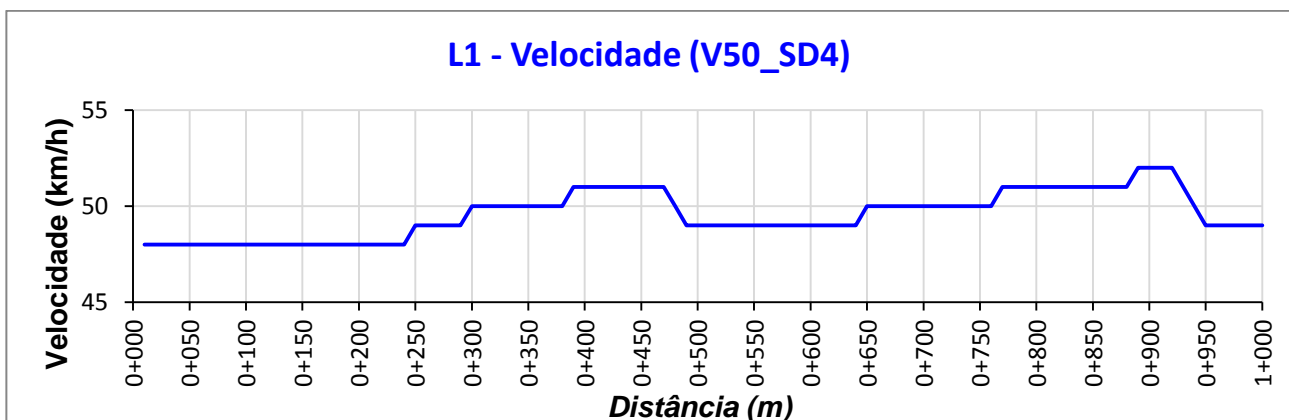
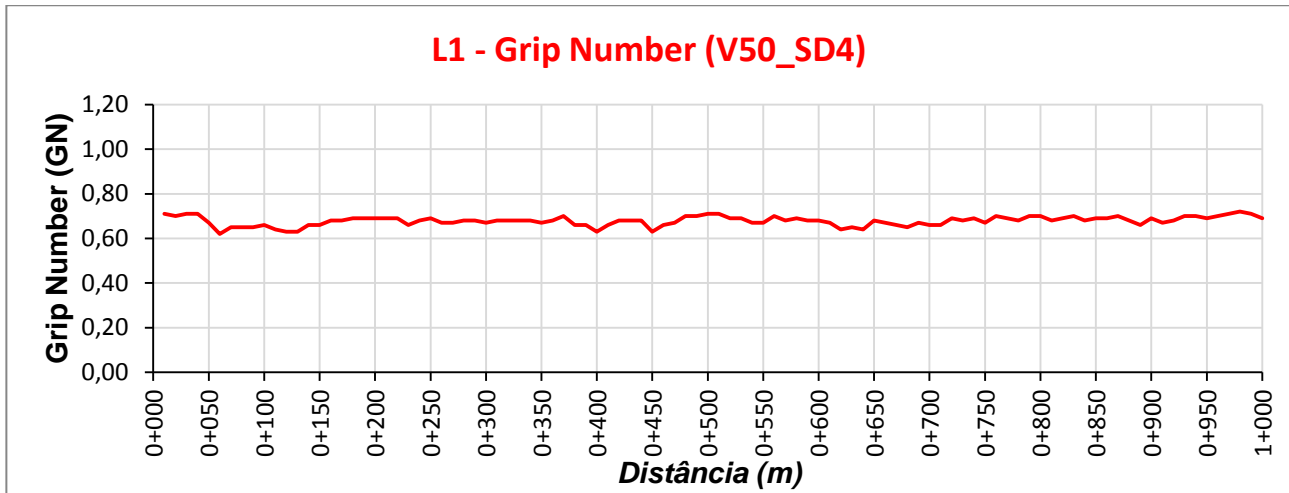
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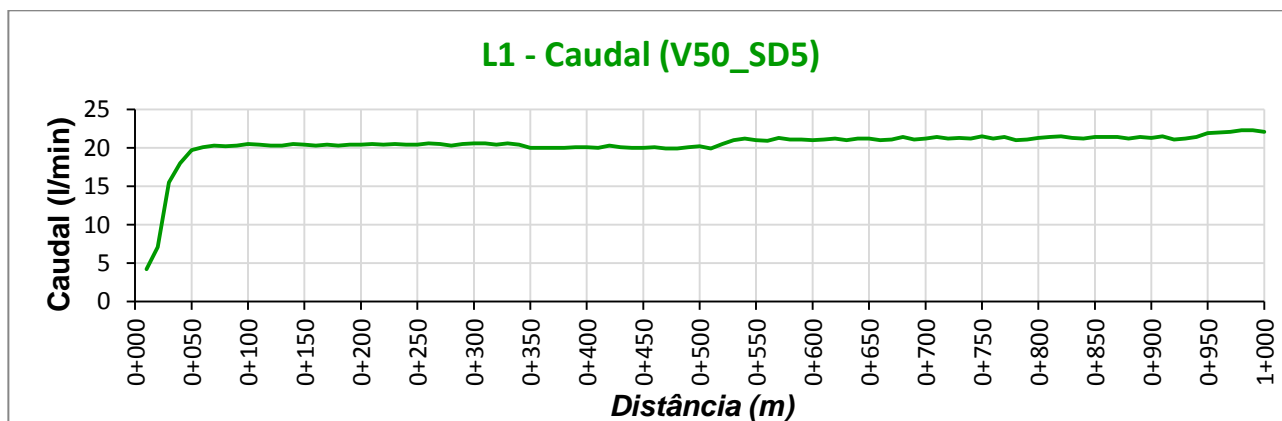
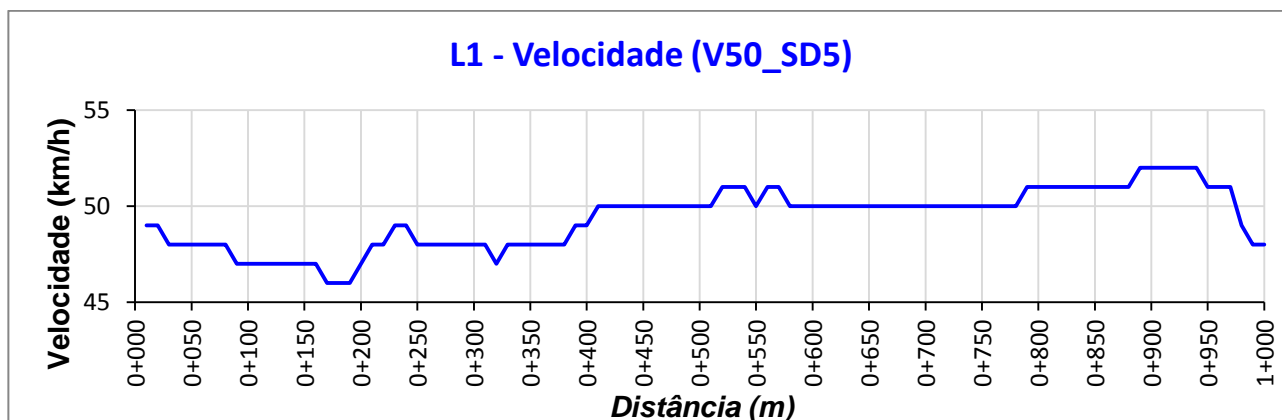
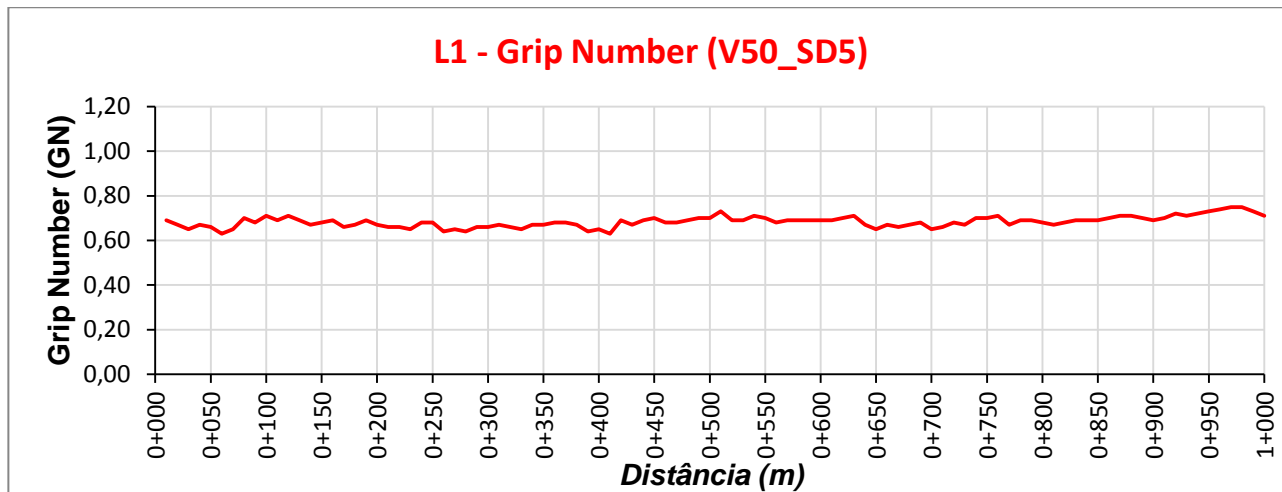
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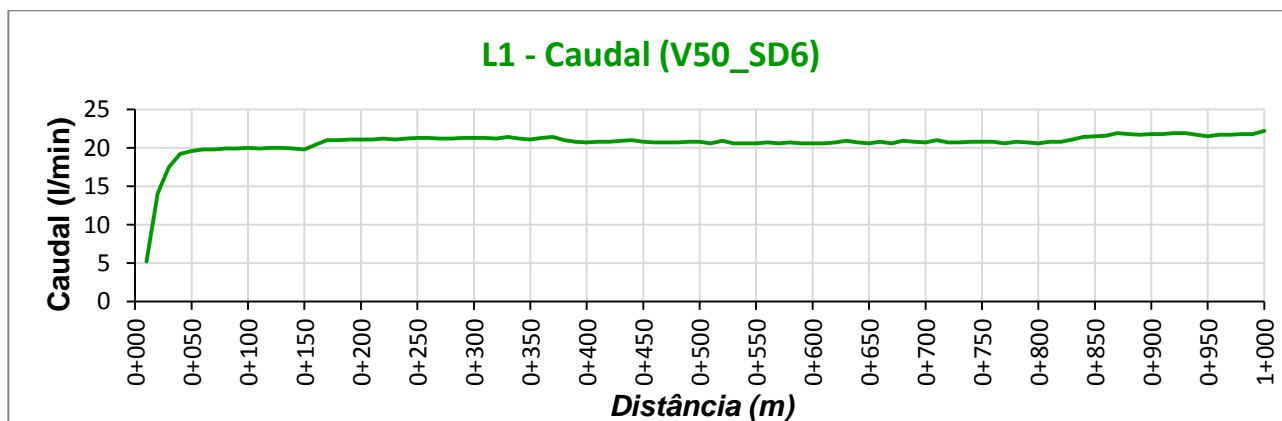
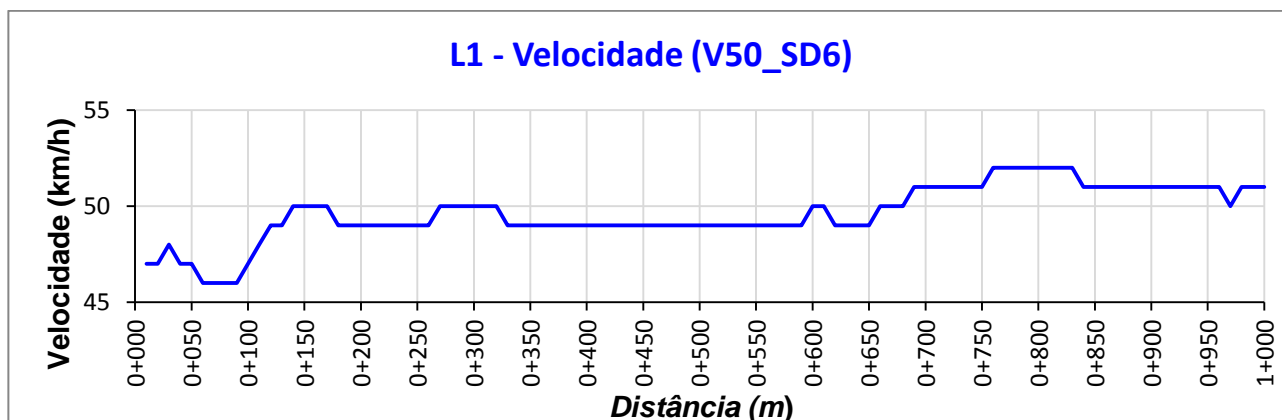
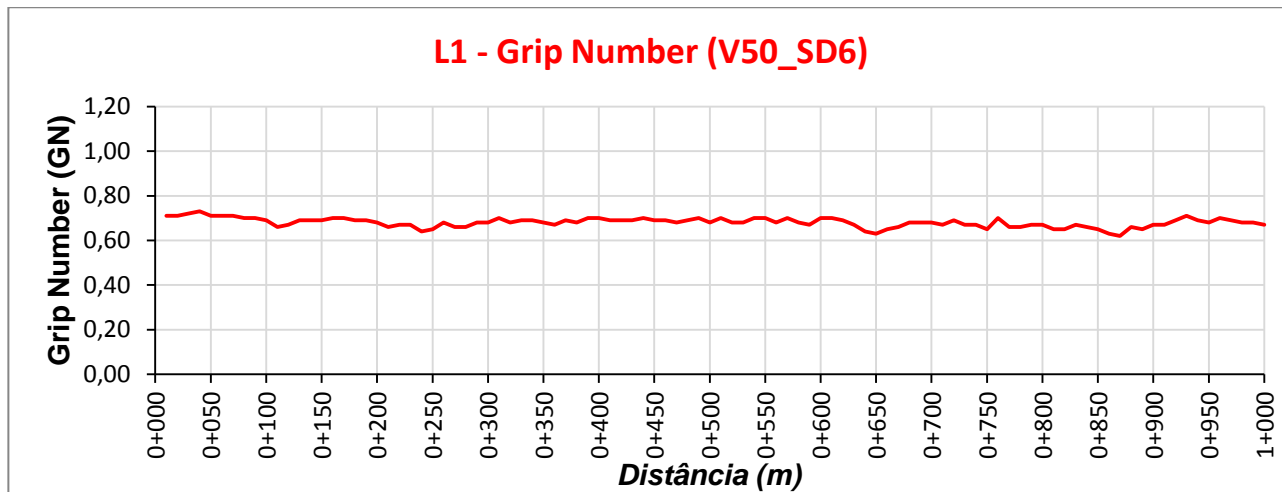
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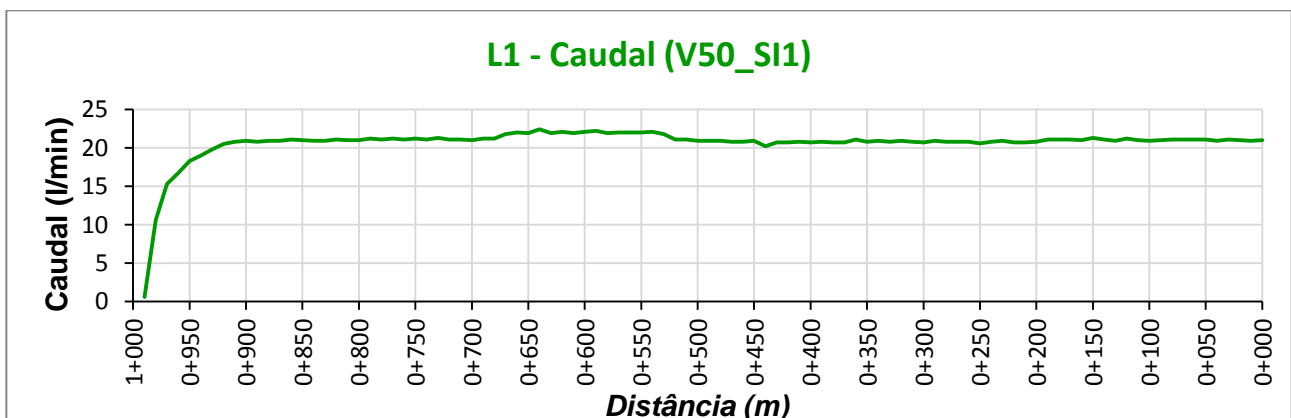
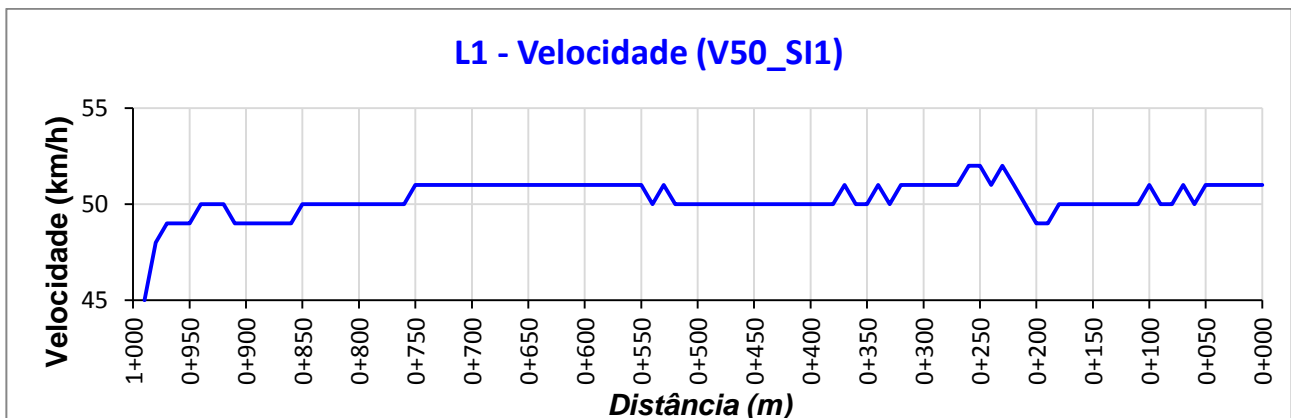
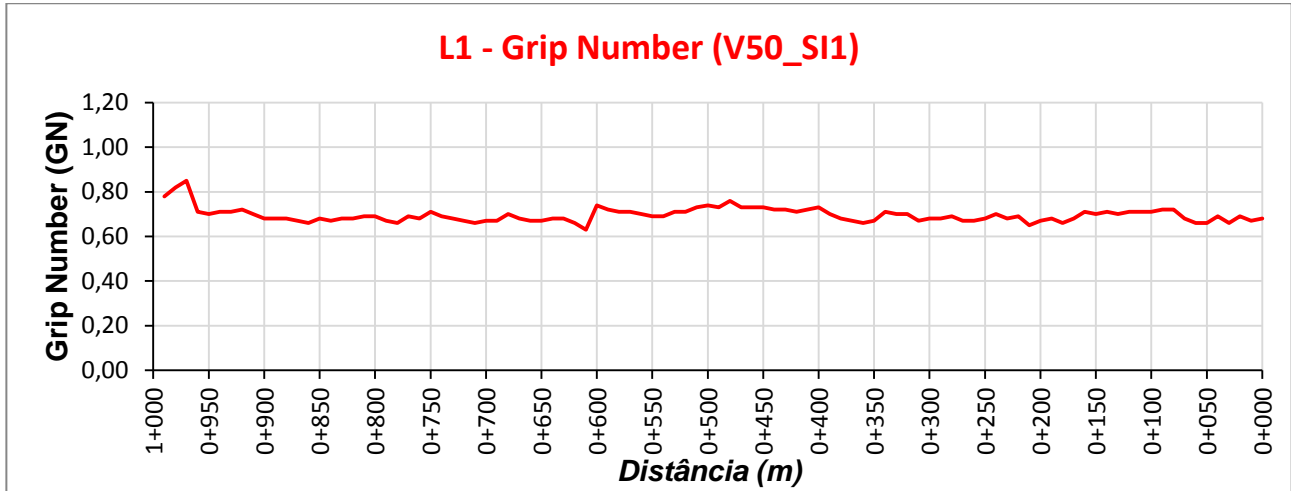
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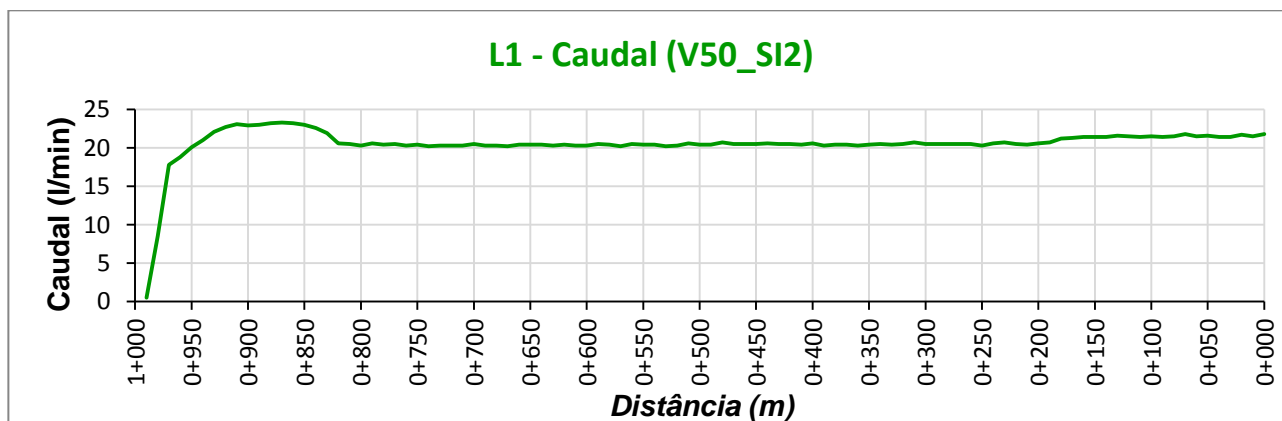
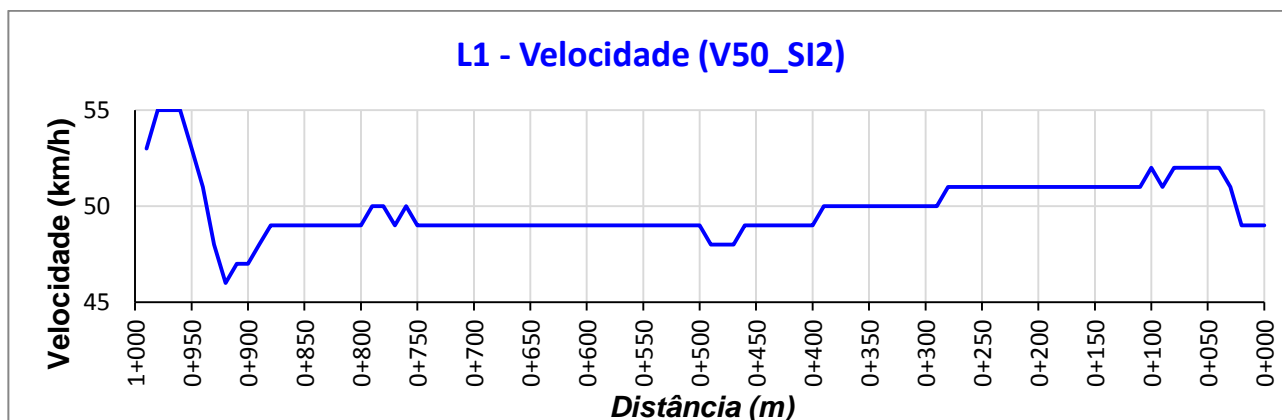
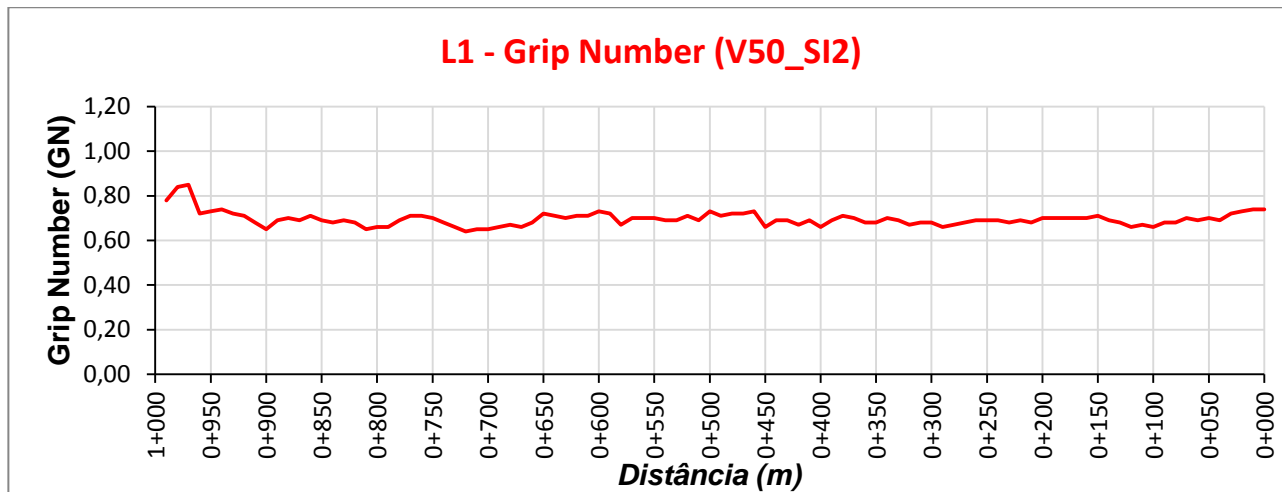
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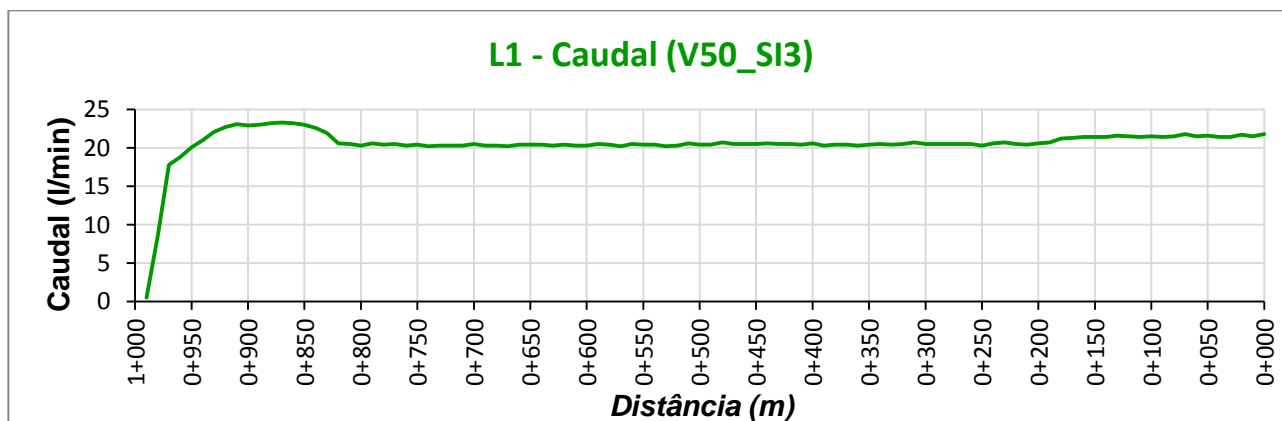
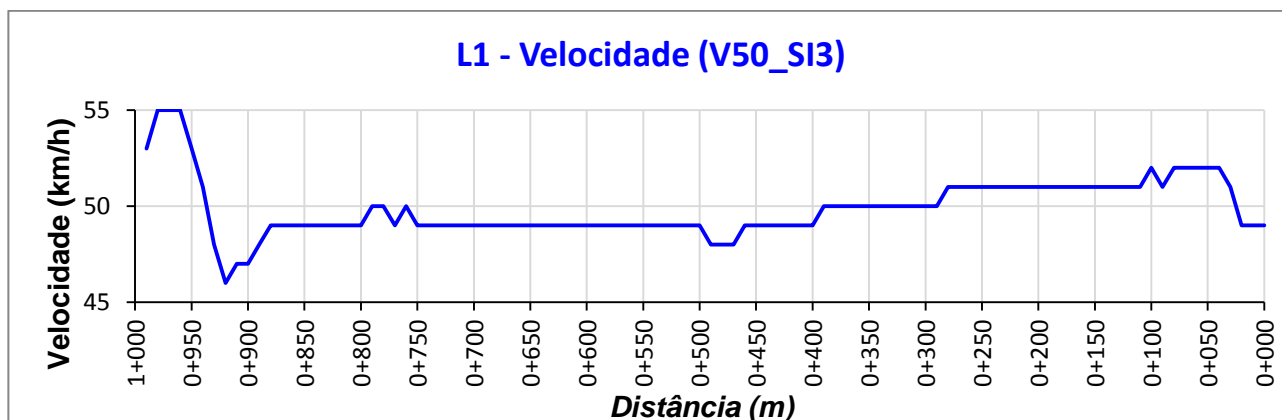
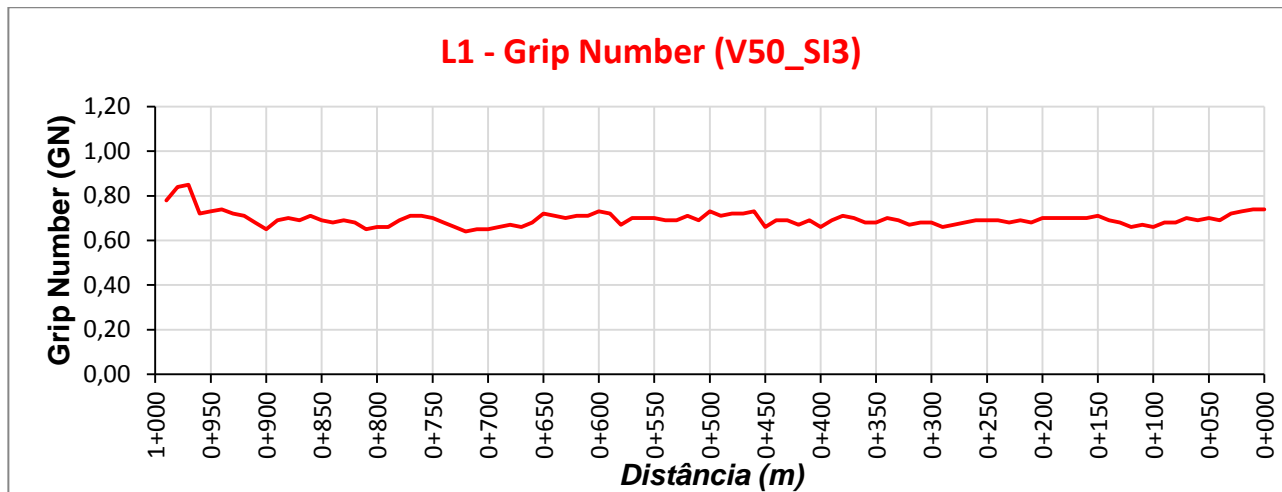
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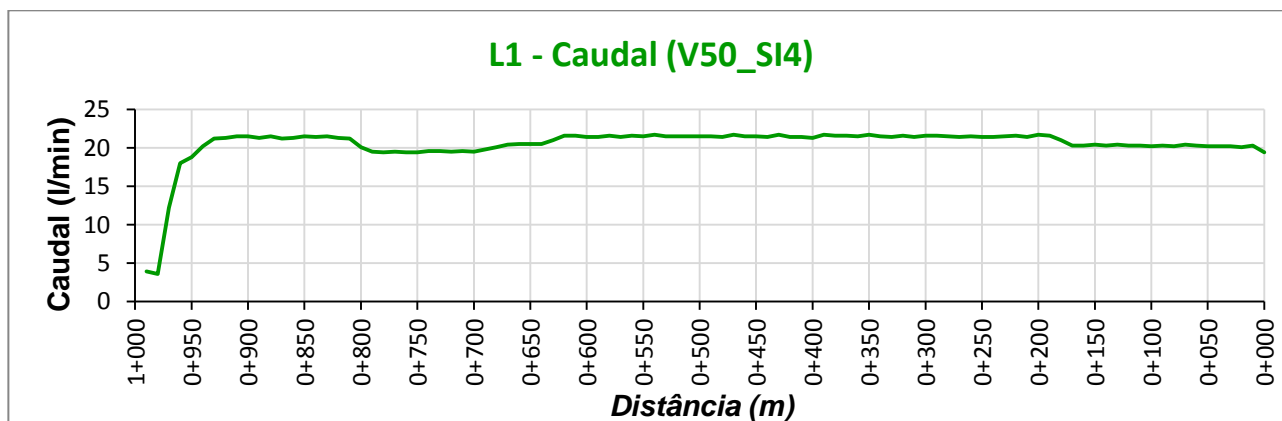
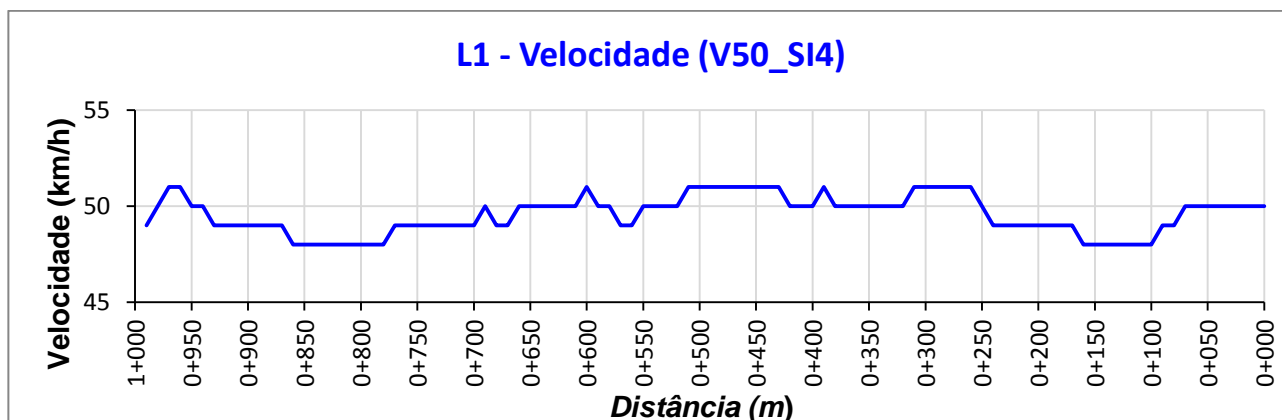
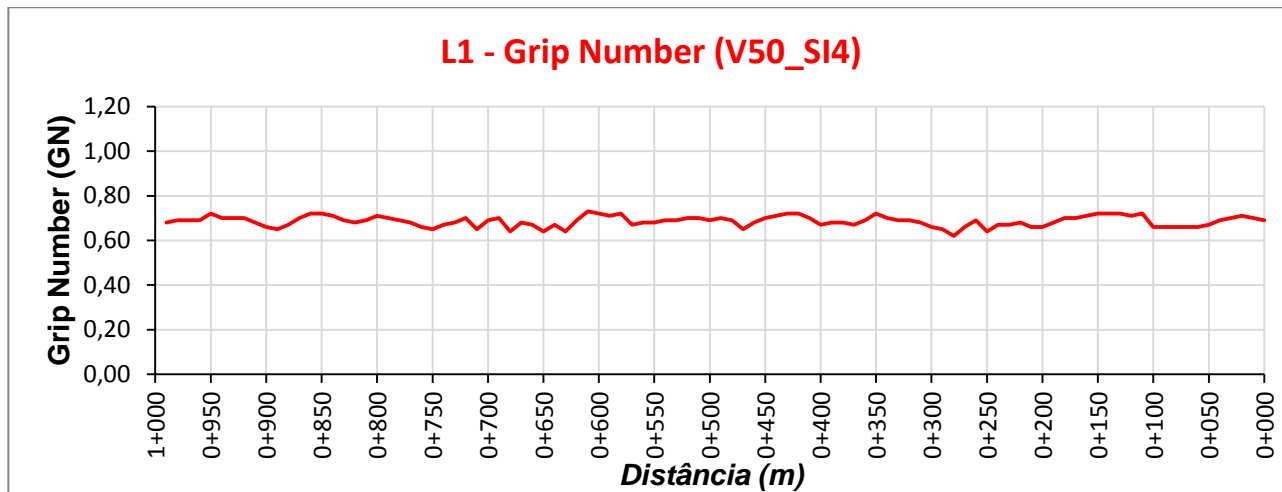
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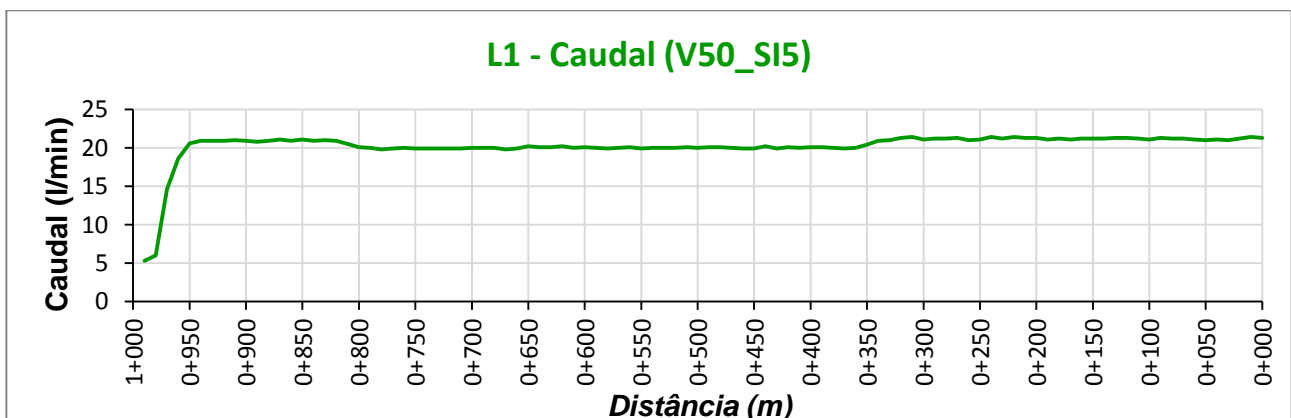
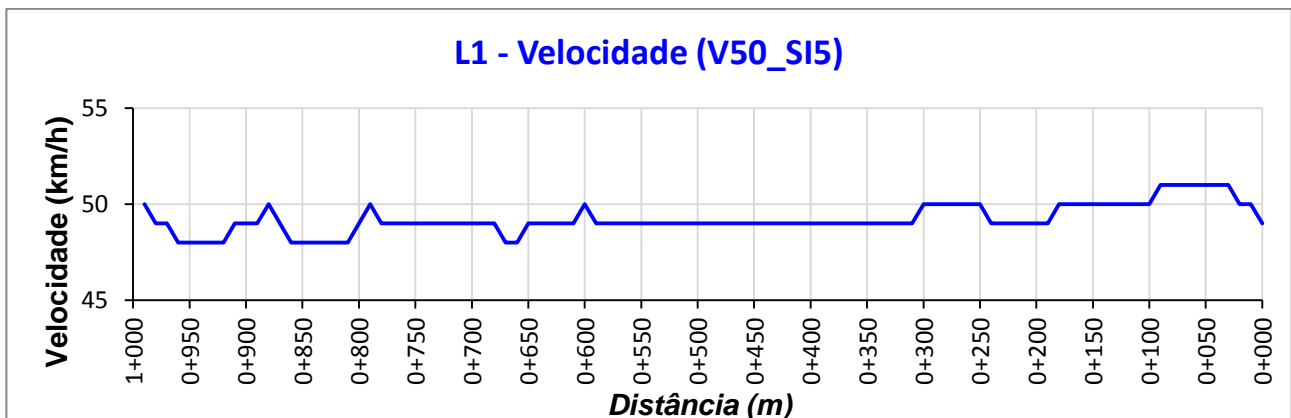
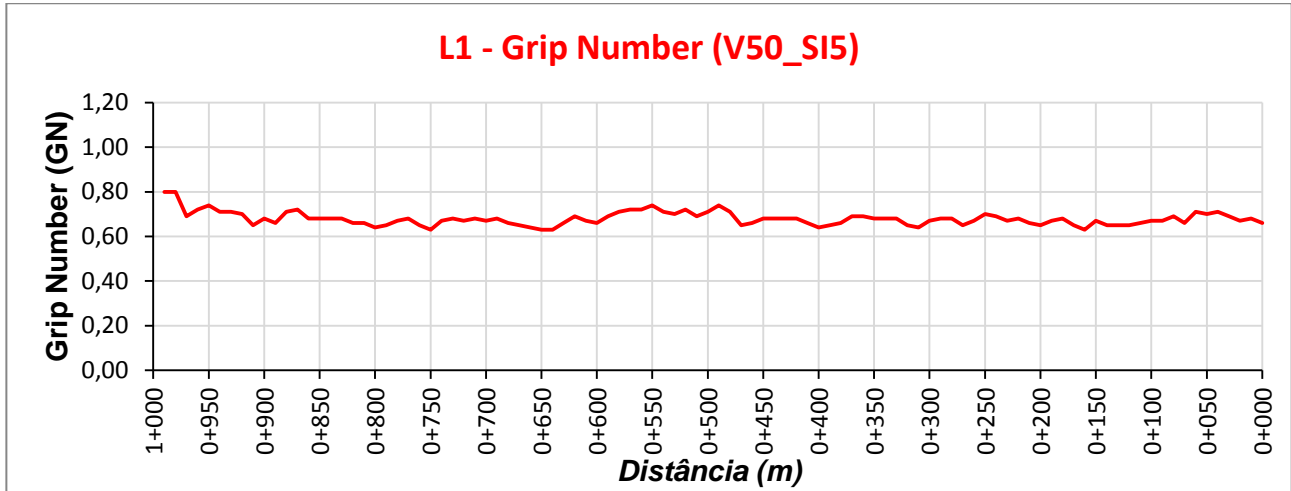
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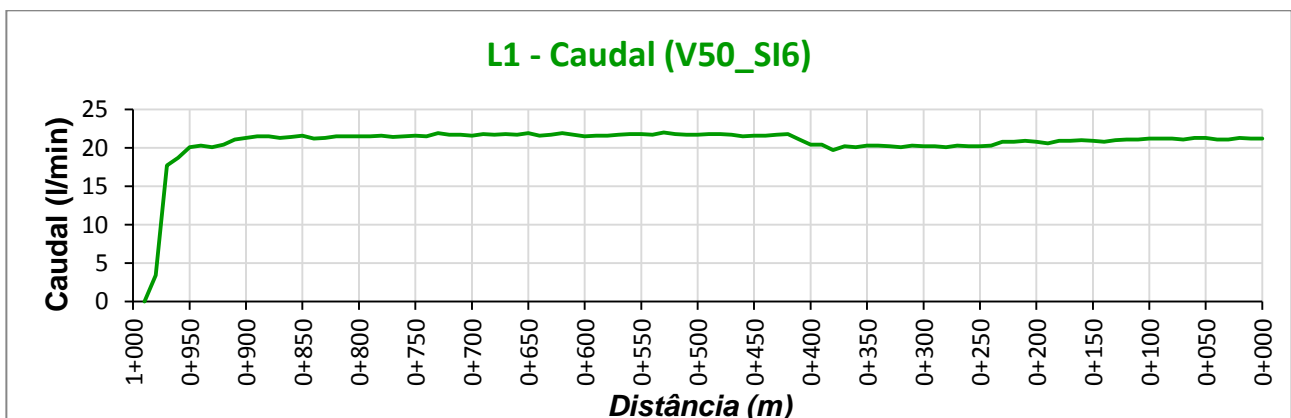
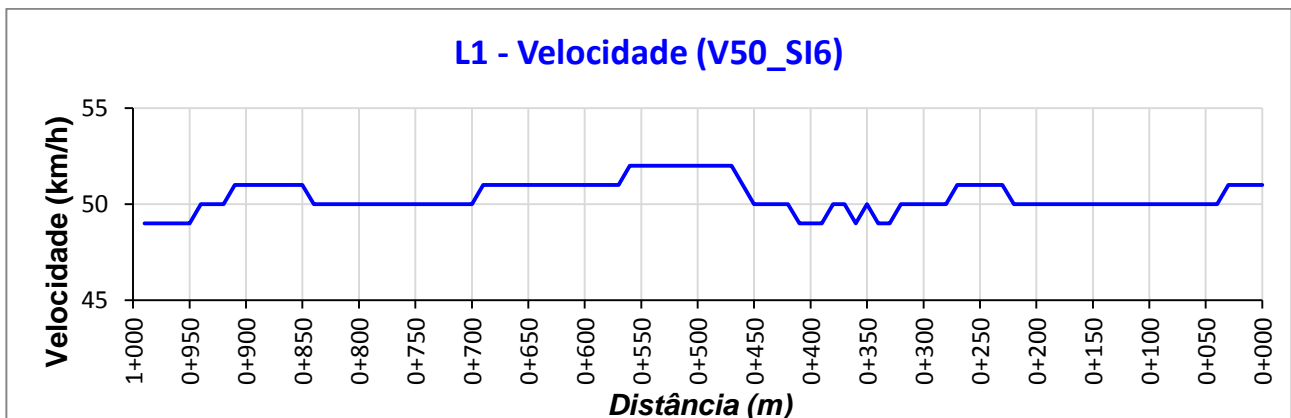
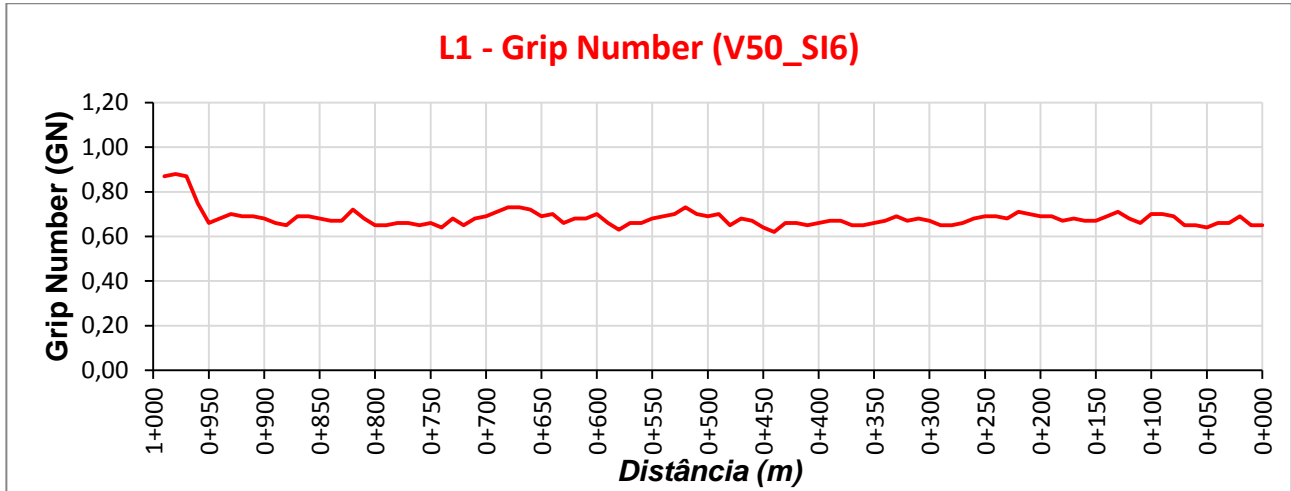
GRÁFICOS A1.15 – LABORATÓRIO 1 – V50_SI3



GRÁFICOS A1.16 – LABORATÓRIO 1 – V50_SI4



GRÁFICOS A1.17 – LABORATÓRIO 1 – V50_SI5

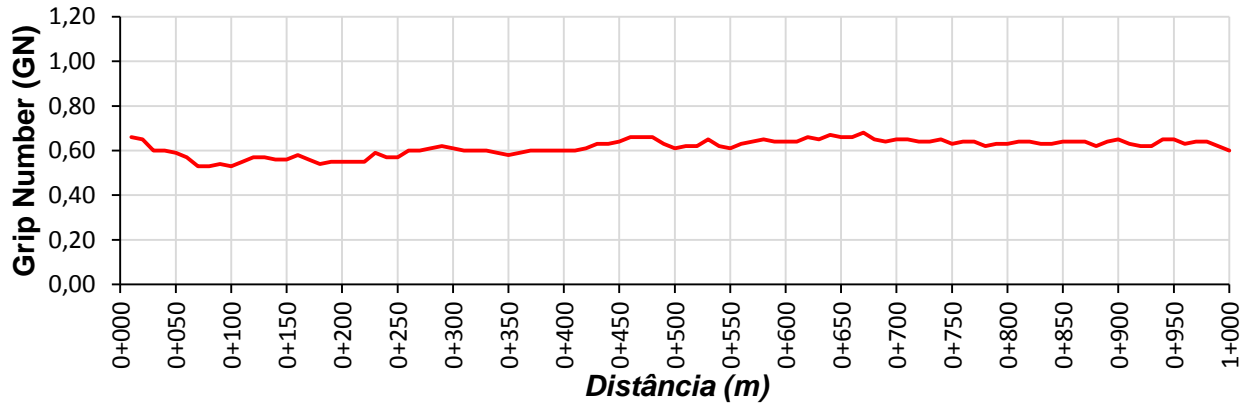


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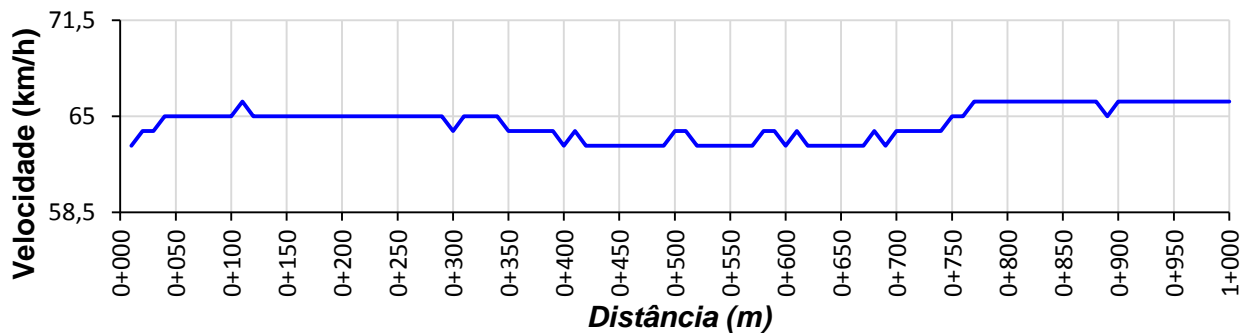


VELOCIDADE 65 KM/H

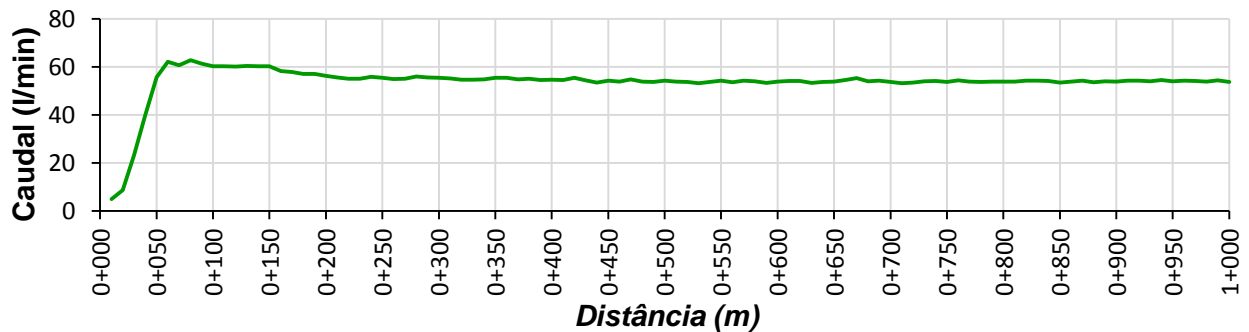
L1 - Grip Number (V65_SD1)



L1 - Velocidade (V65_SD1)

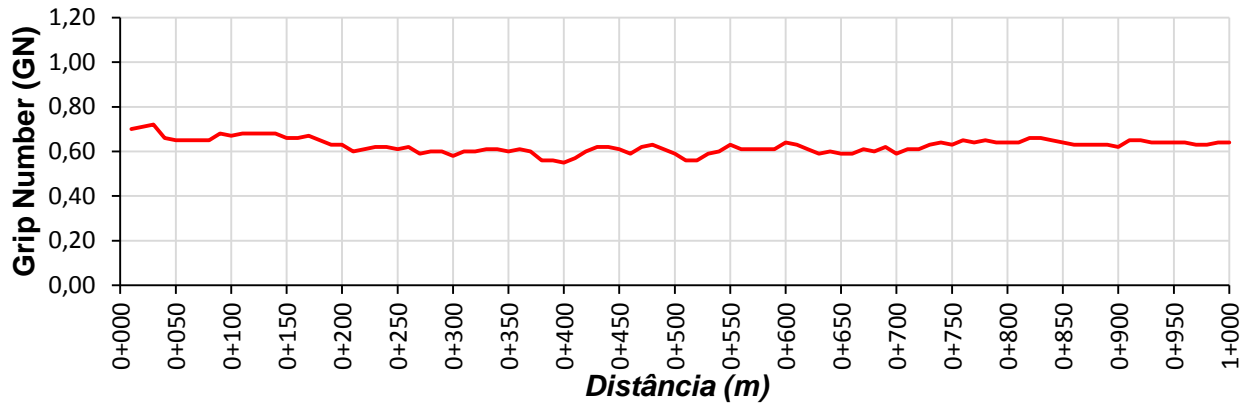


L1 - Caudal (V65_SD1)

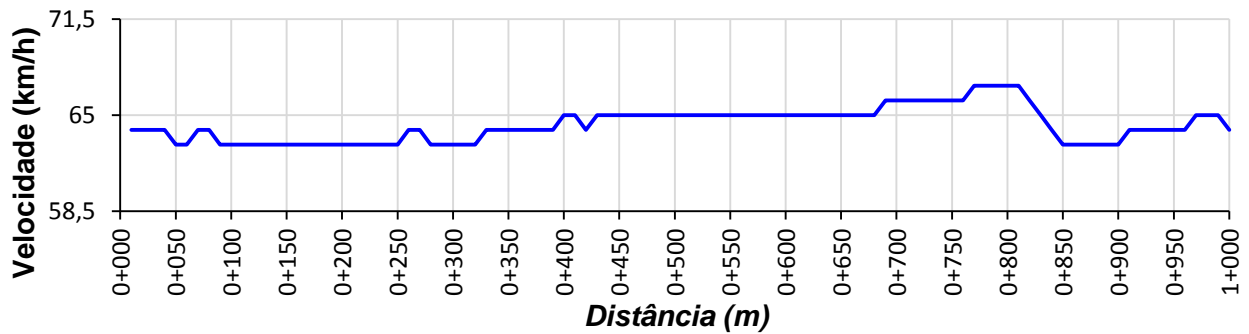


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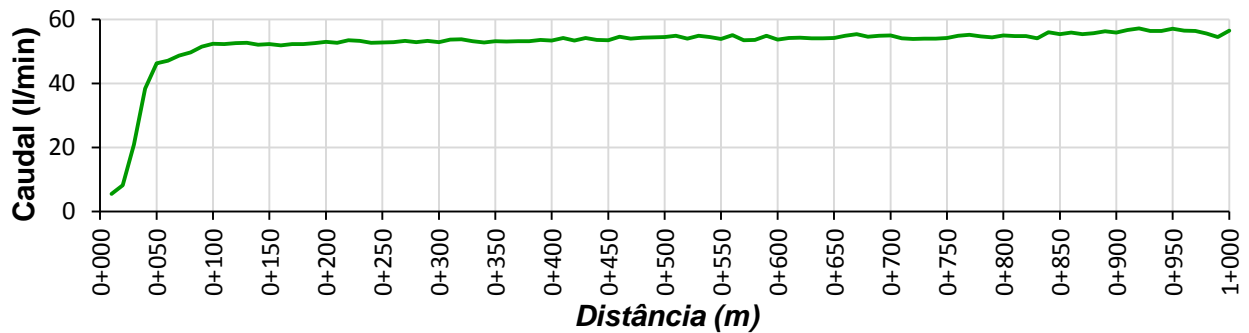
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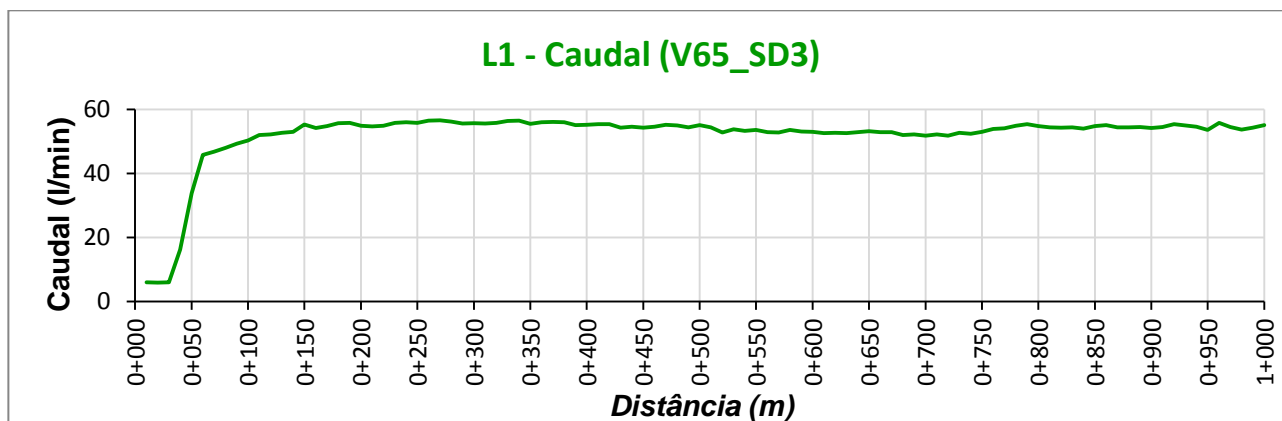
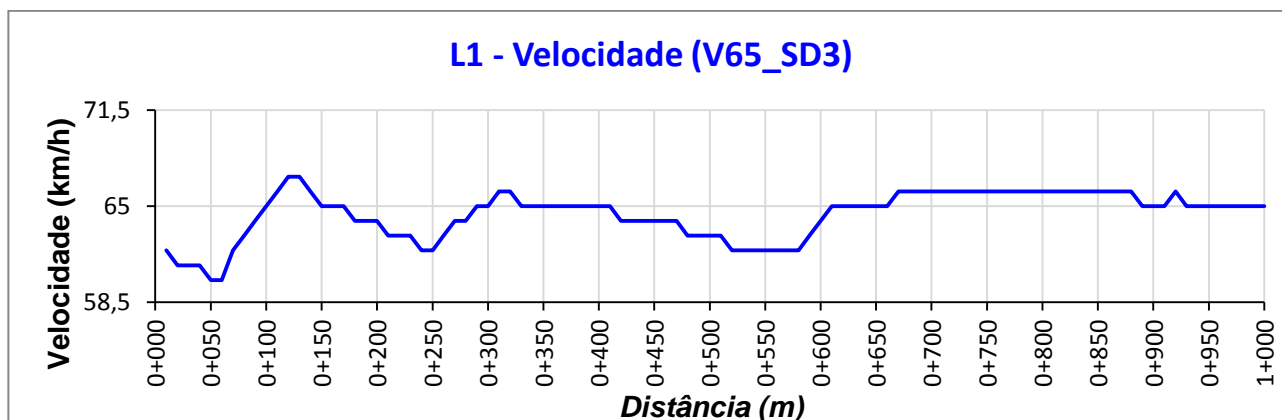
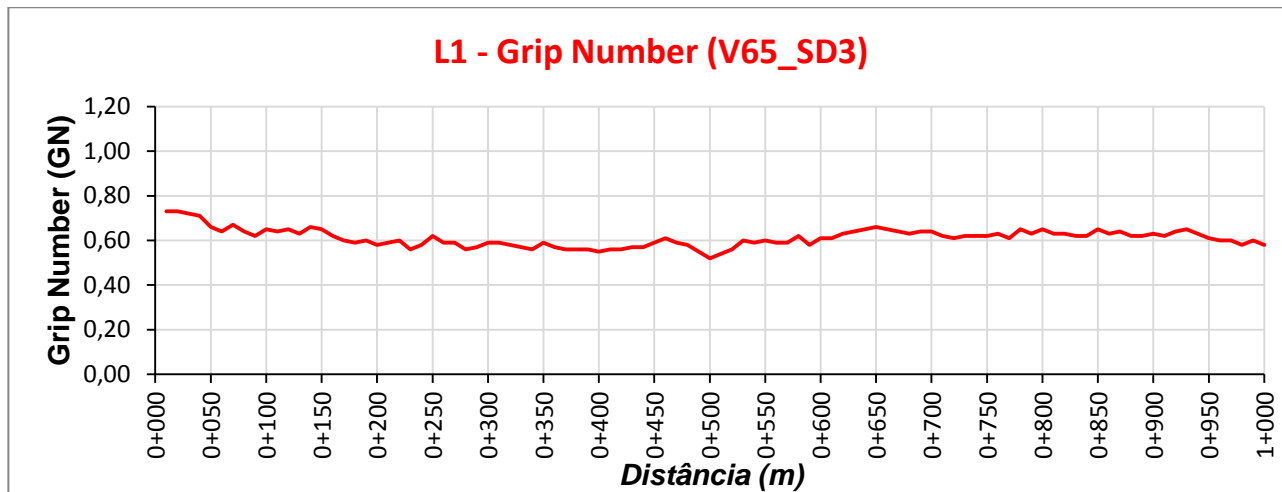
L1 - Velocidade (V65_SD2)



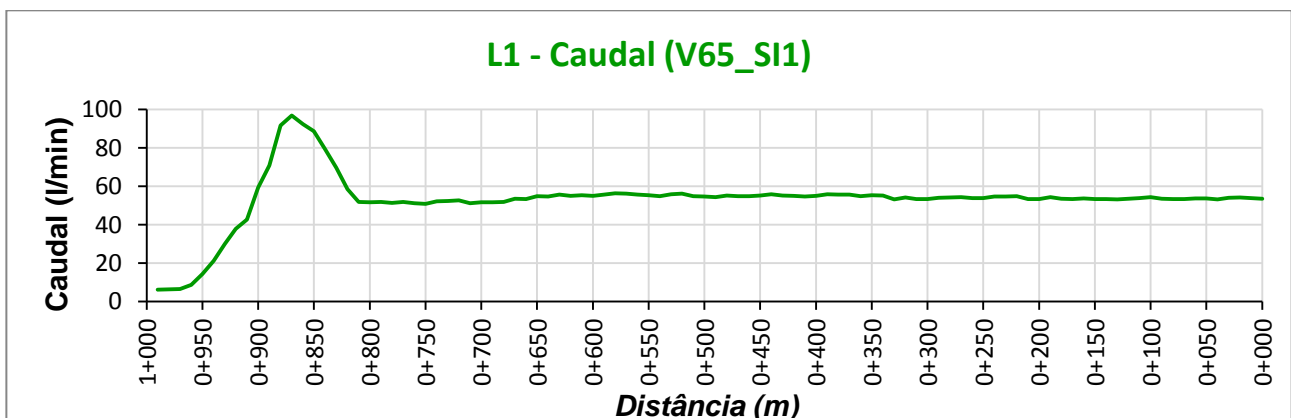
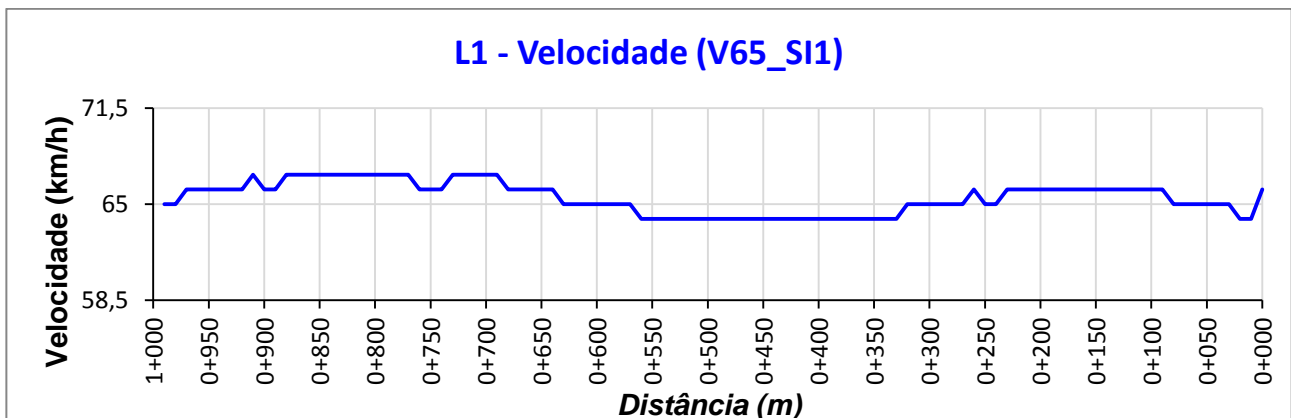
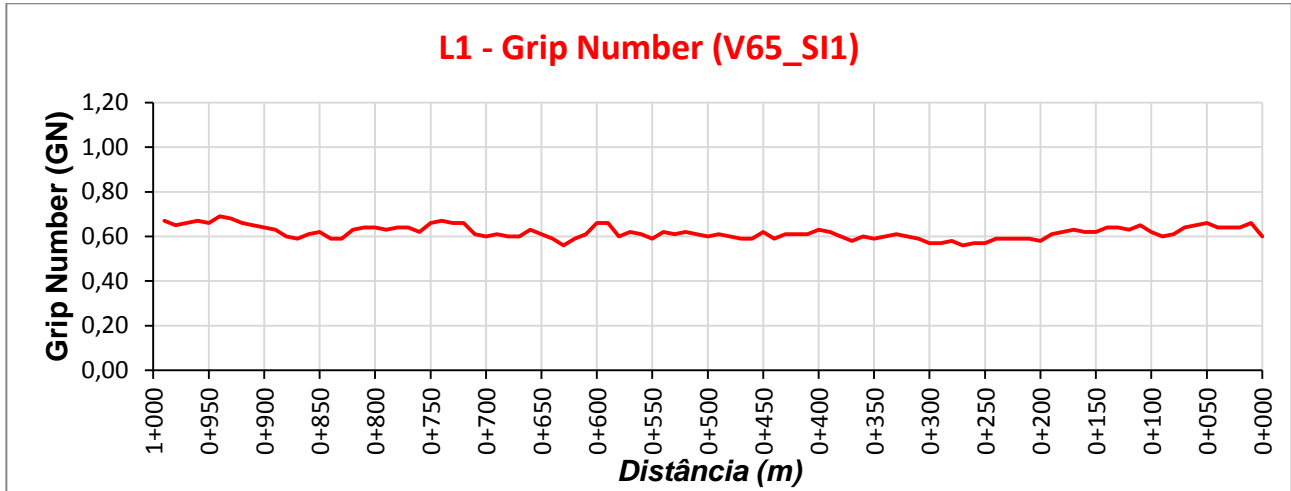
L1 - Caudal (V65_SD2)



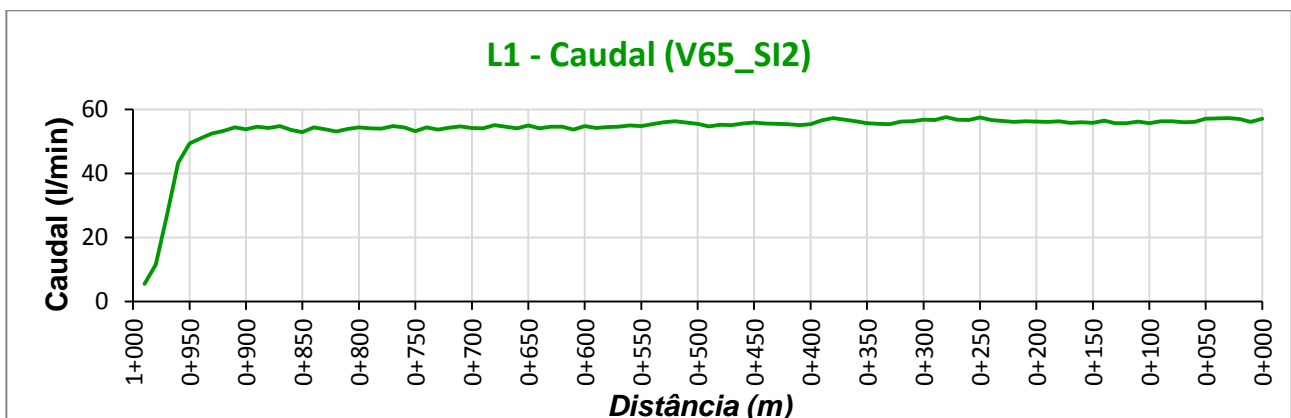
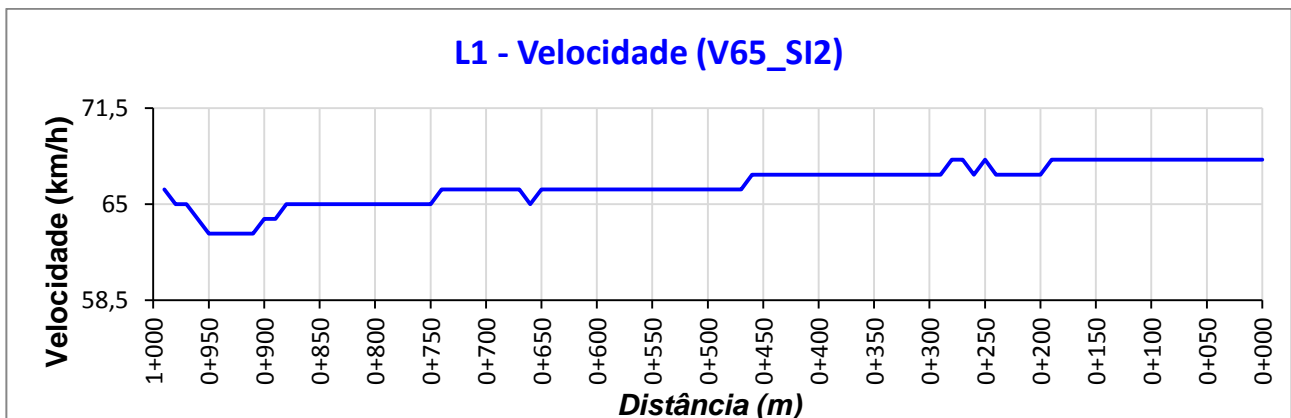
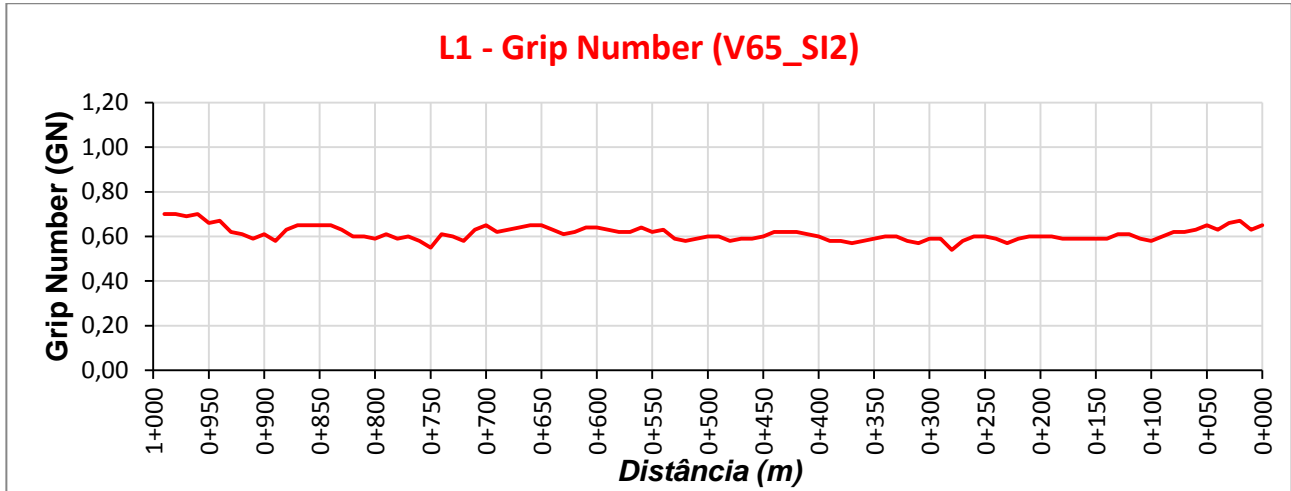
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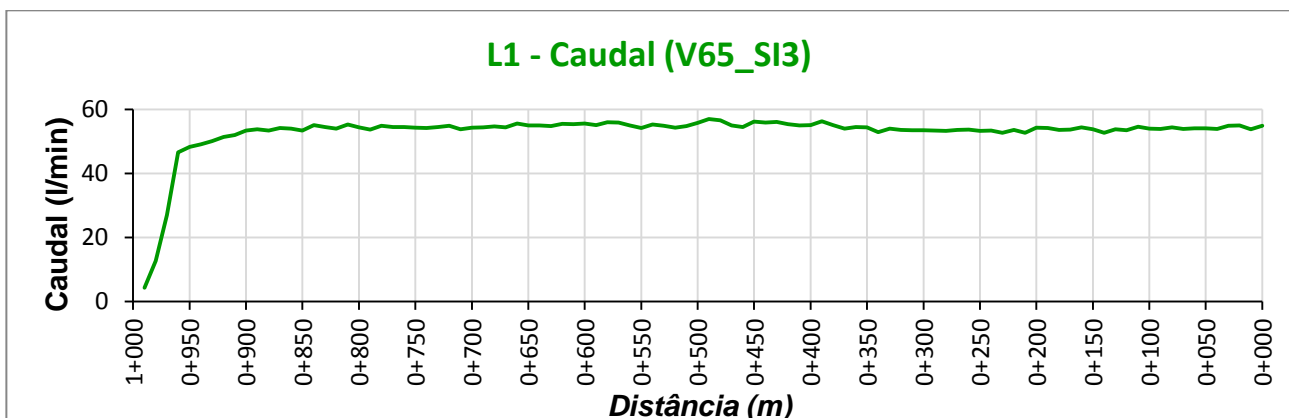
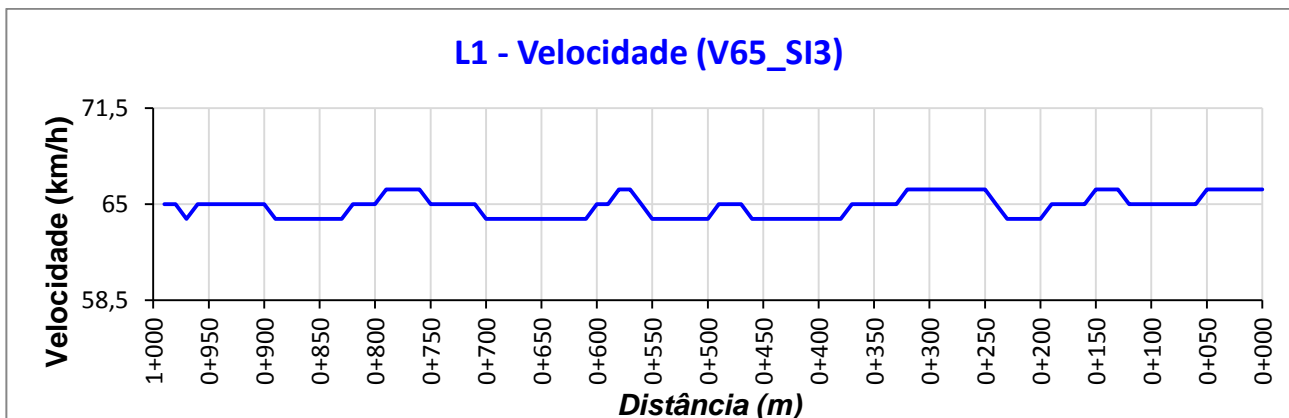
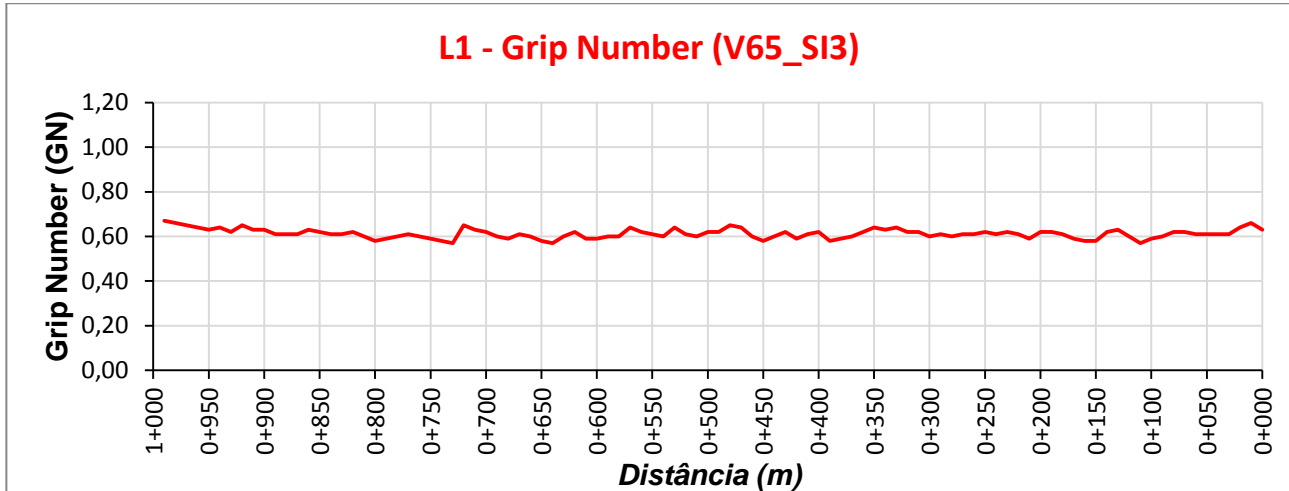
GRÁFICOS AI.21 – LABORATÓRIO 1 – V65_SD3



GRÁFICOS A1.22 – LABORATÓRIO 1 – V65_SI1



GRÁFICOS A1.23 – LABORATÓRIO 1 – V65_SI2

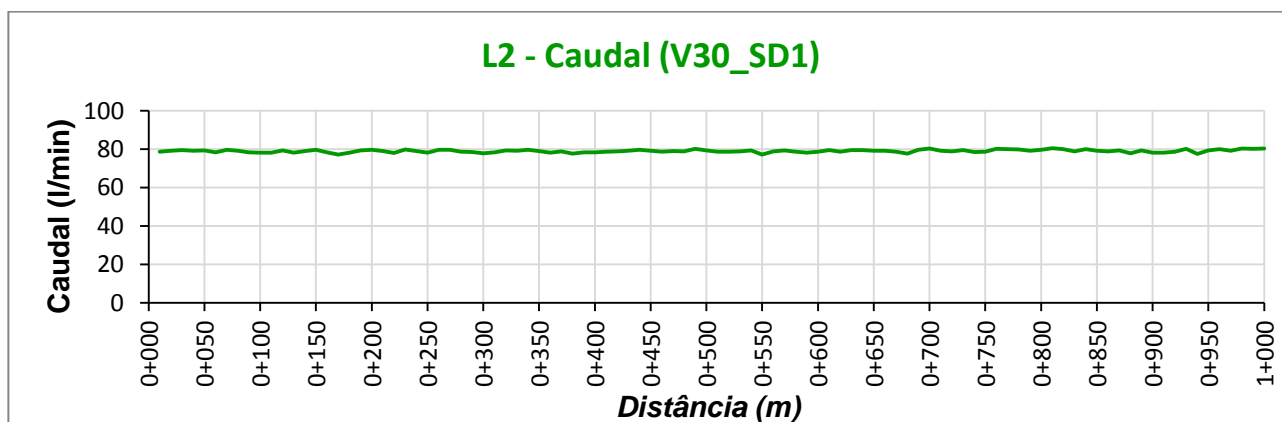
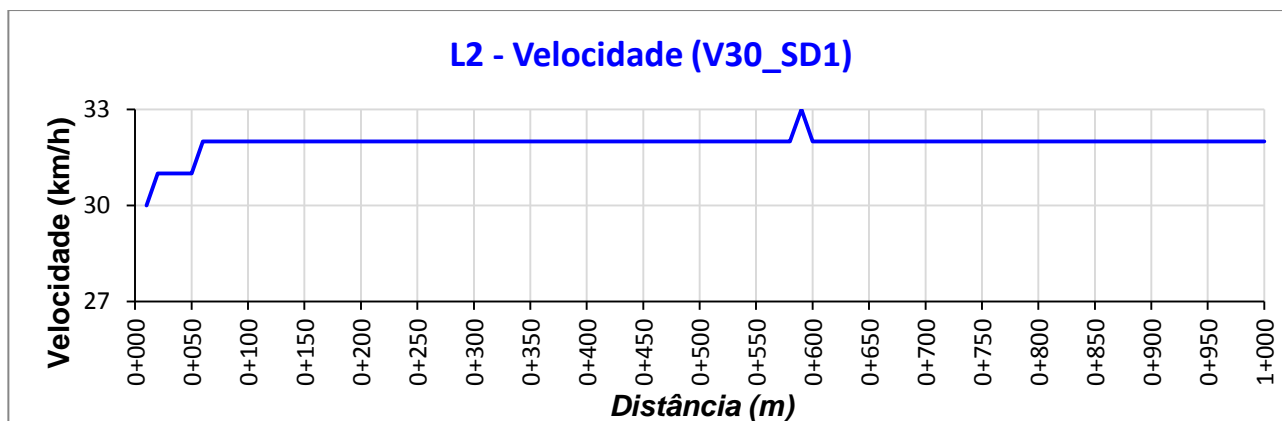
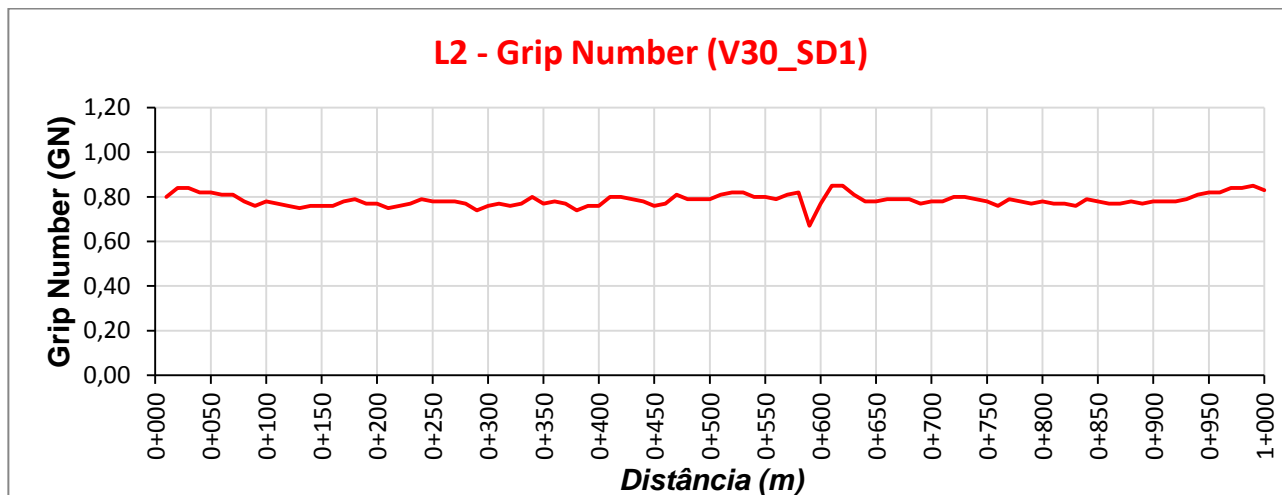


GRÁFICOS A1.24 – LABORATÓRIO 1 – V65_SI3

2. LABORATÓRIO 2

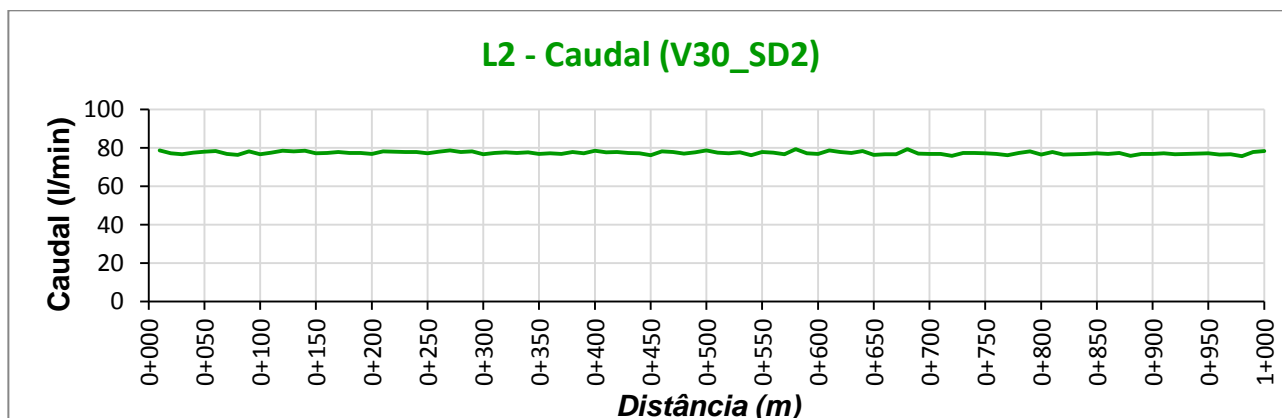
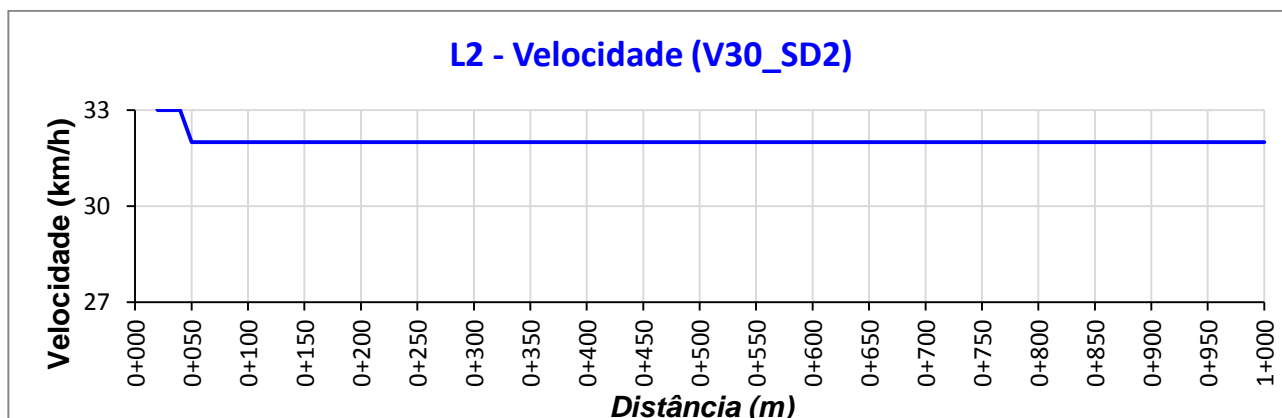
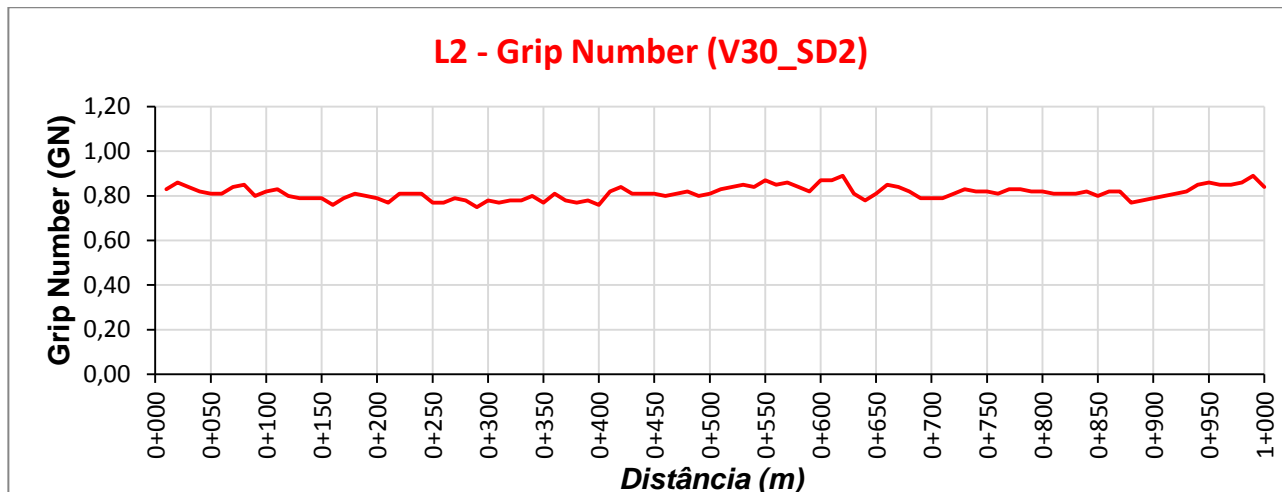


VELOCIDADE 30 KM/H



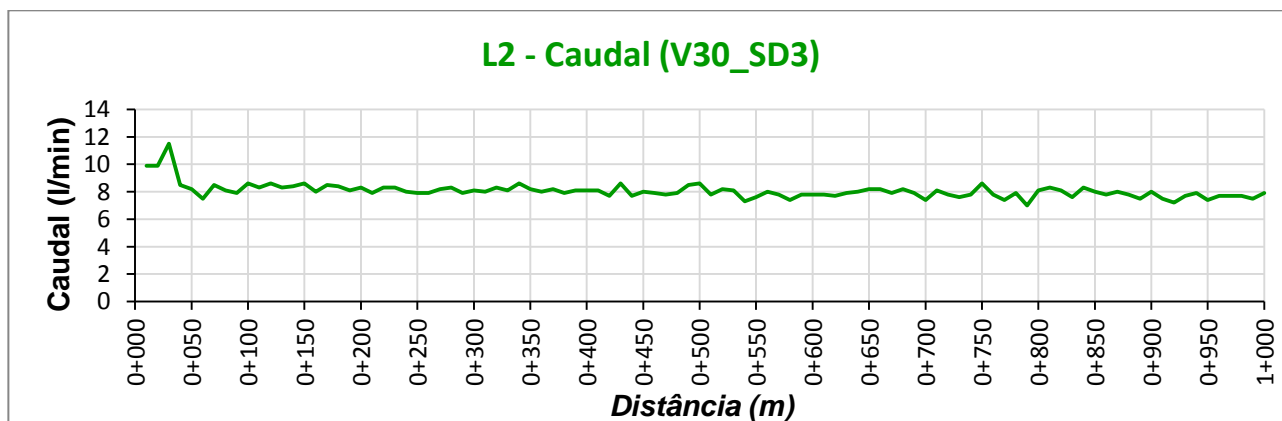
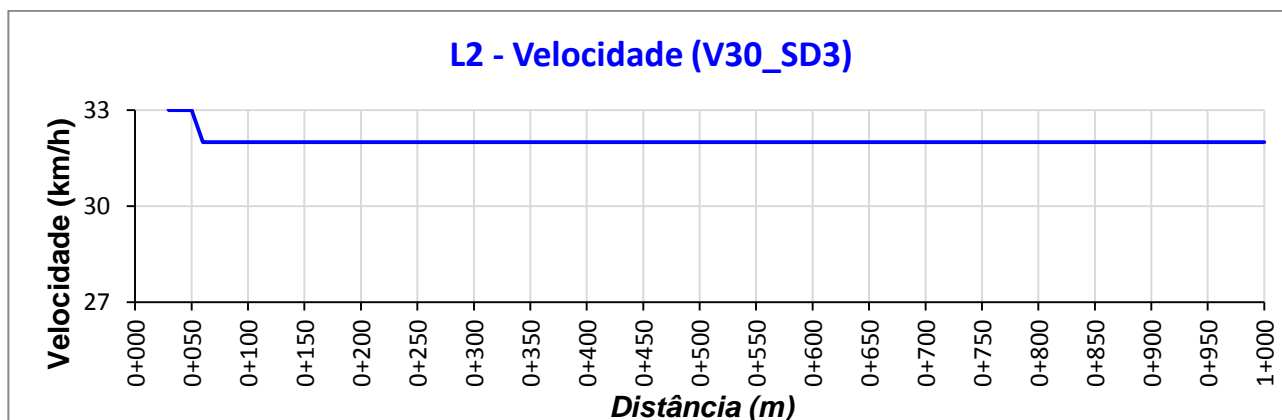
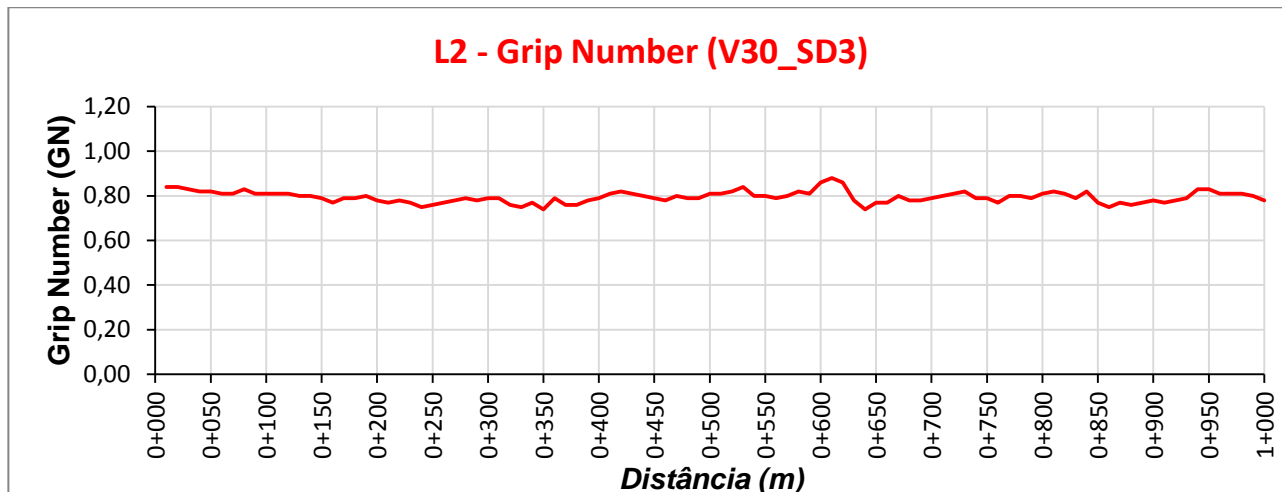
GRÁFICOS AI.25 – LABORATÓRIO 2 – V30_SD1

Nota: Os valores registados nesta corrida não foram considerados válidos para a análise estatística, uma vez que esta foi feita com outro veículo e outro sistema de vazão de água.

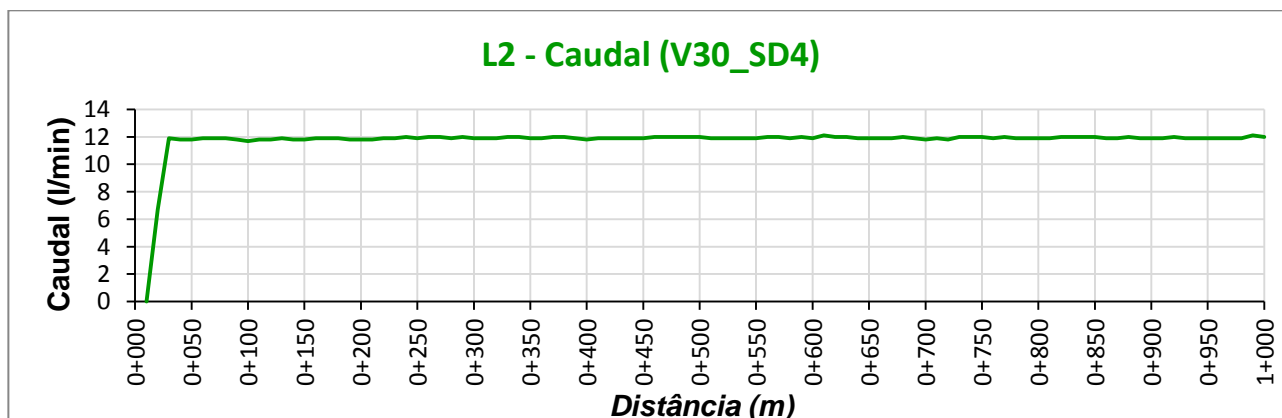
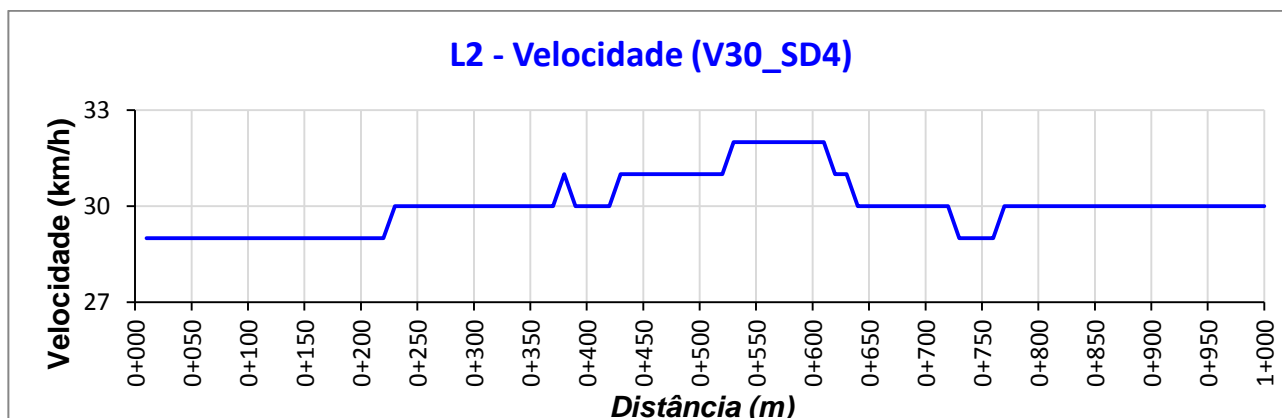
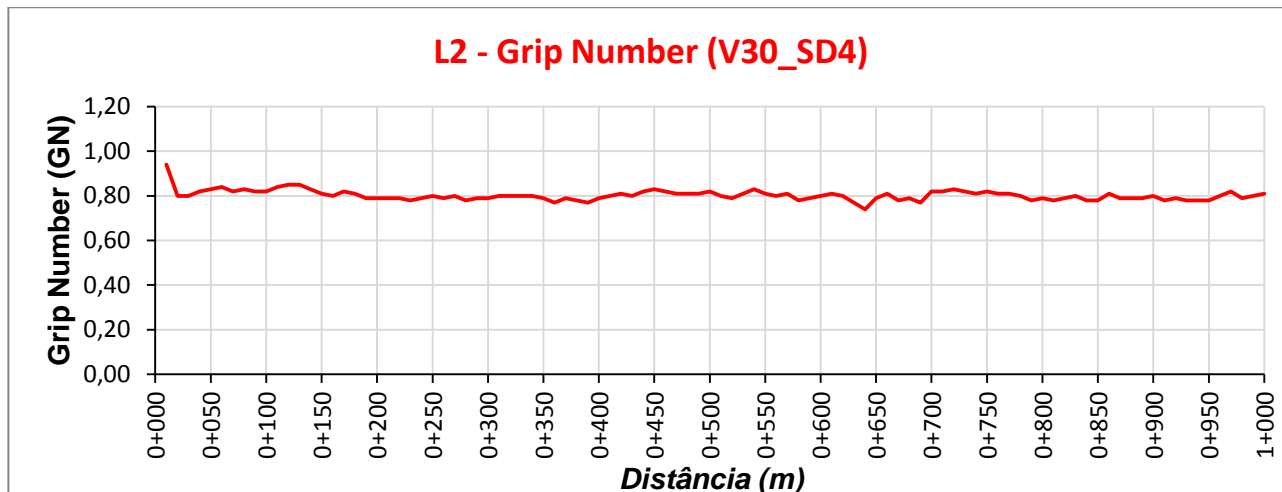


GRÁFICOS AI.26 – LABORATÓRIO 2 – V30_SD2

Nota: Os valores registados nesta corrida não foram considerados válidos para a análise estatística, uma vez esta foi feita com outro veículo e outro sistema de vazão de água.

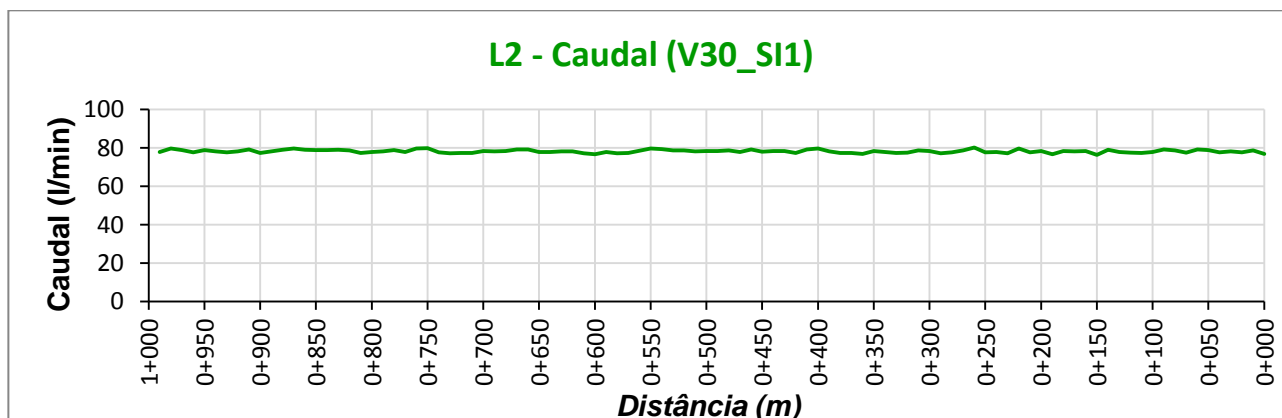
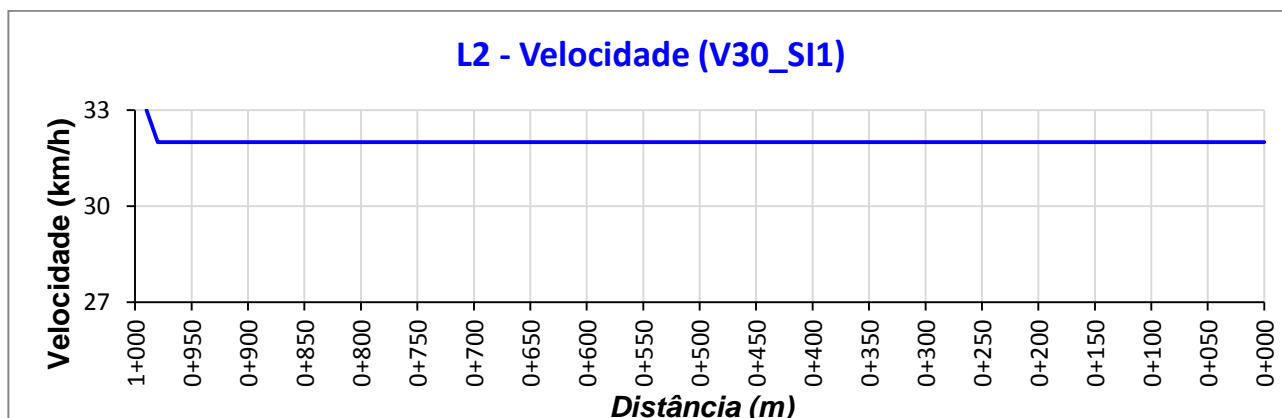
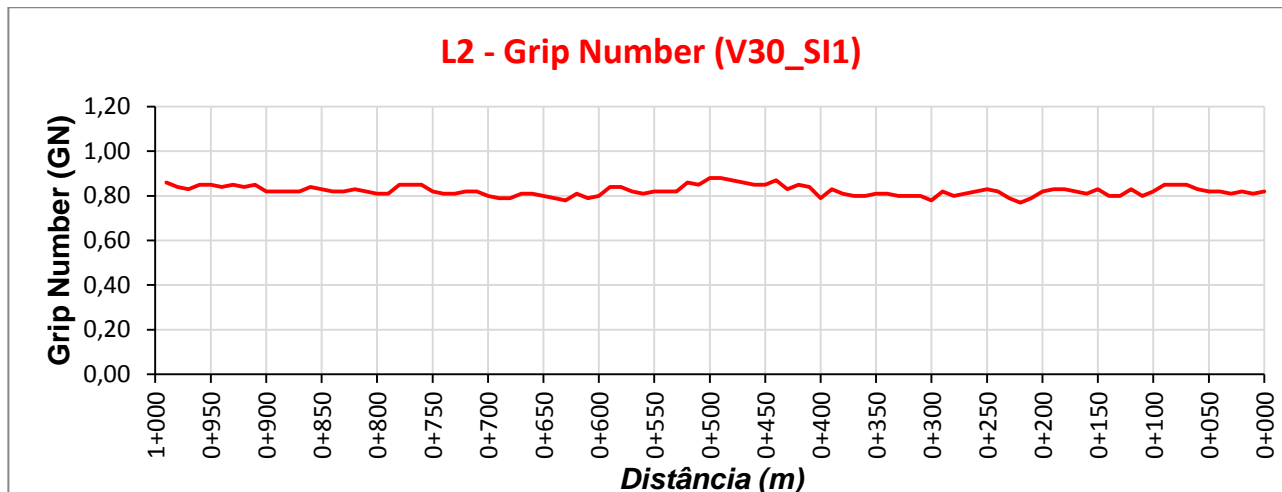


GRÁFICOS AI.27 – LABORATÓRIO 2 – V30_SD3



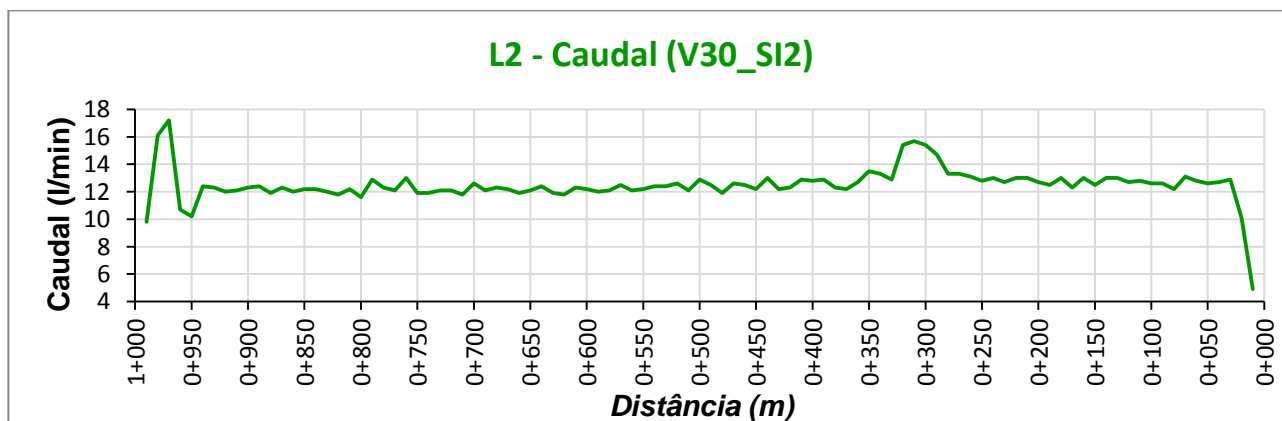
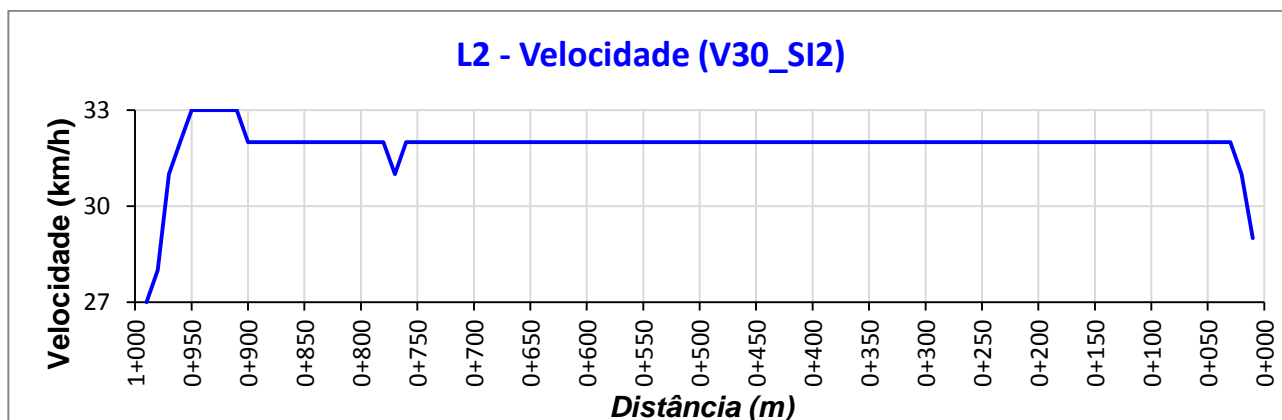
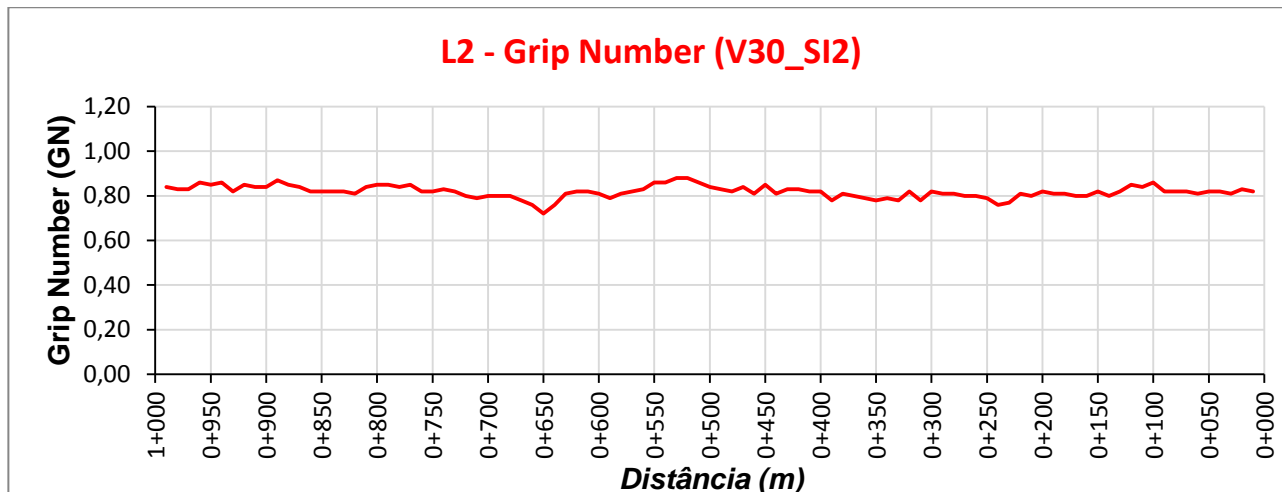
GRÁFICOS A1.28 – LABORATÓRIO 2 – V30_SD4

Nota: Ensaio extra para compensar os ensaios não validados, de forma a ter-se mais um registo de resultados obtidos para a análise.

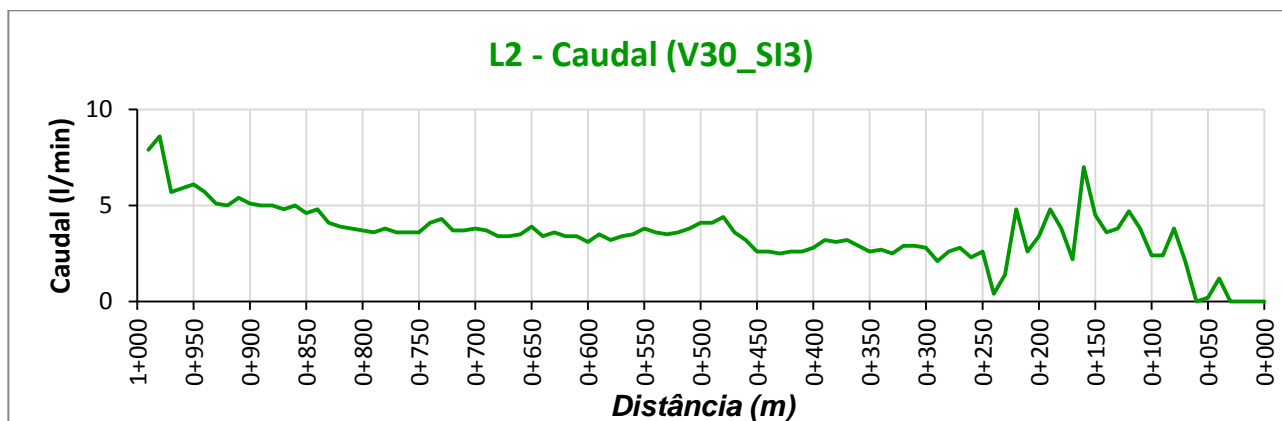
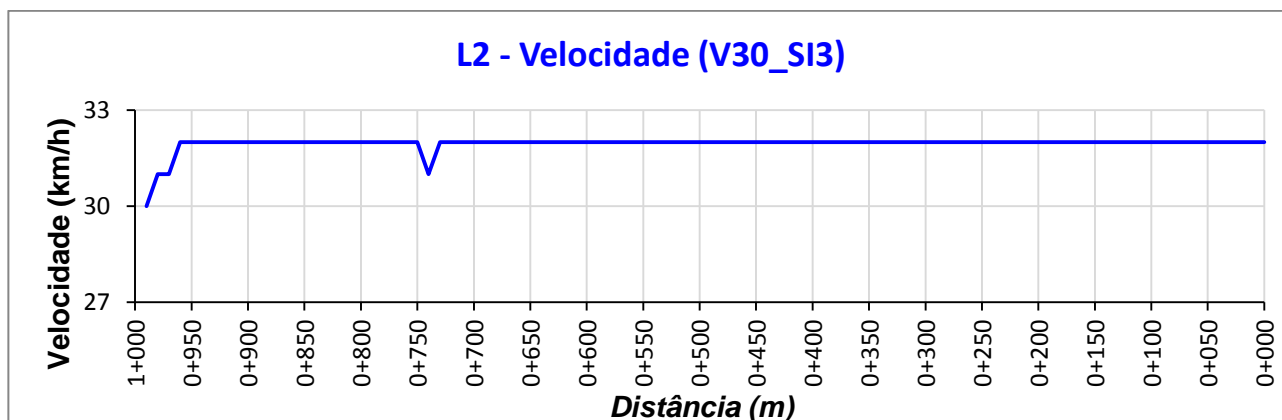
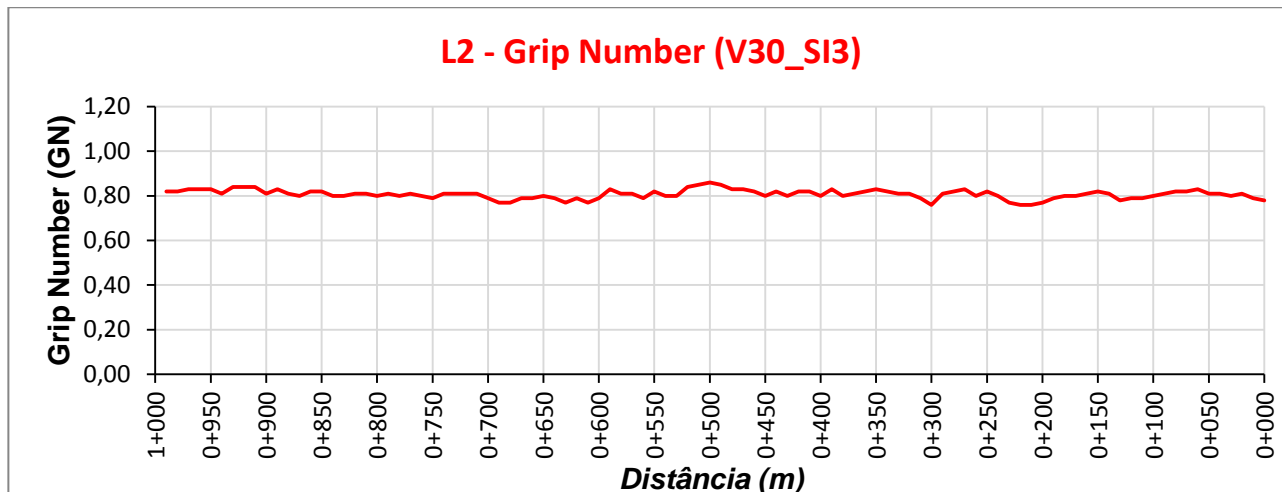


GRÁFICOS A1.29 – LABORATÓRIO 2 – V30_SI1

Nota: Os valores registados nesta corrida não foram considerados válidos para a análise estatística, uma vez que esta foi feita com outro veículo e outro sistema de vazão de água.



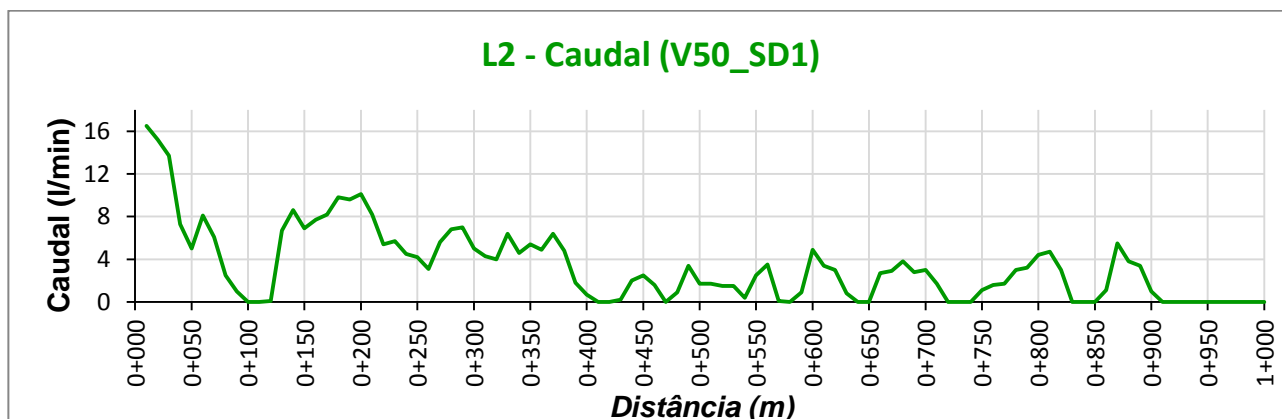
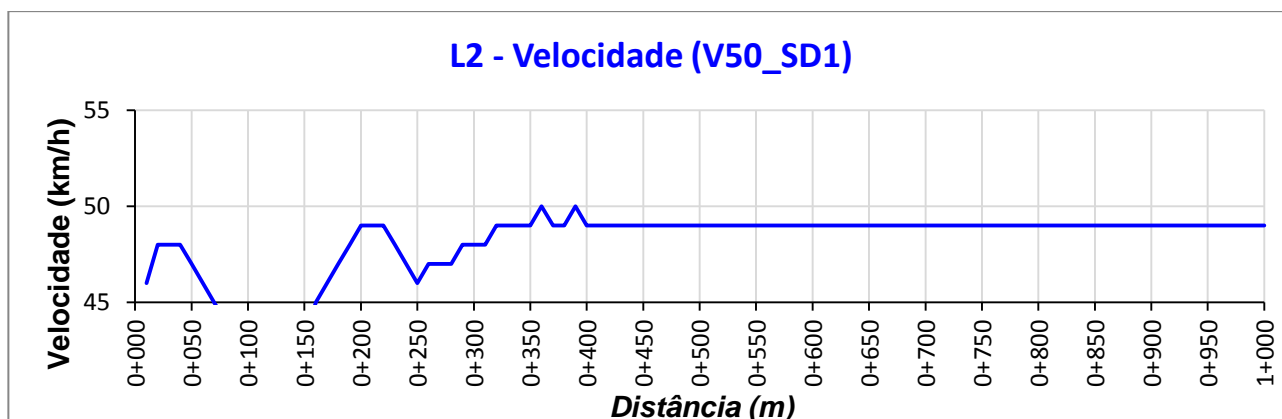
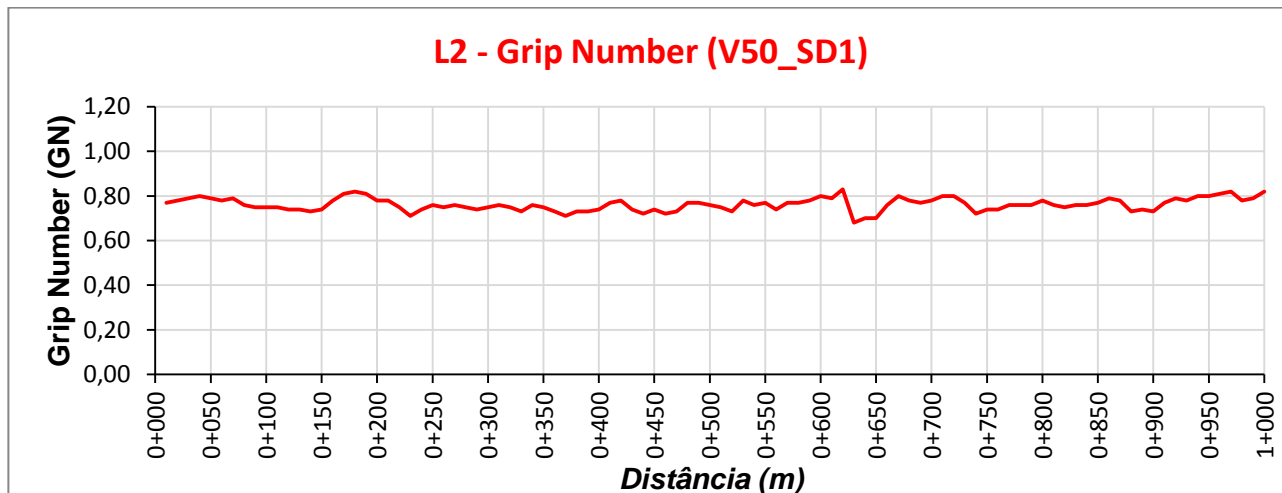
GRÁFICOS A1.30 – LABORATÓRIO 2 – V30_SI2



GRÁFICOS A1.31 – LABORATÓRIO 2 – V30_SI3

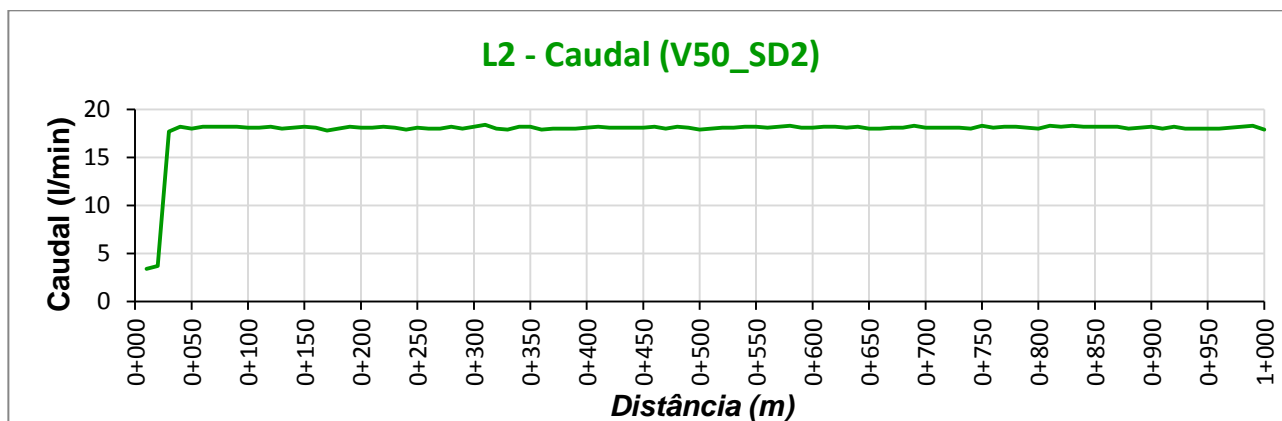
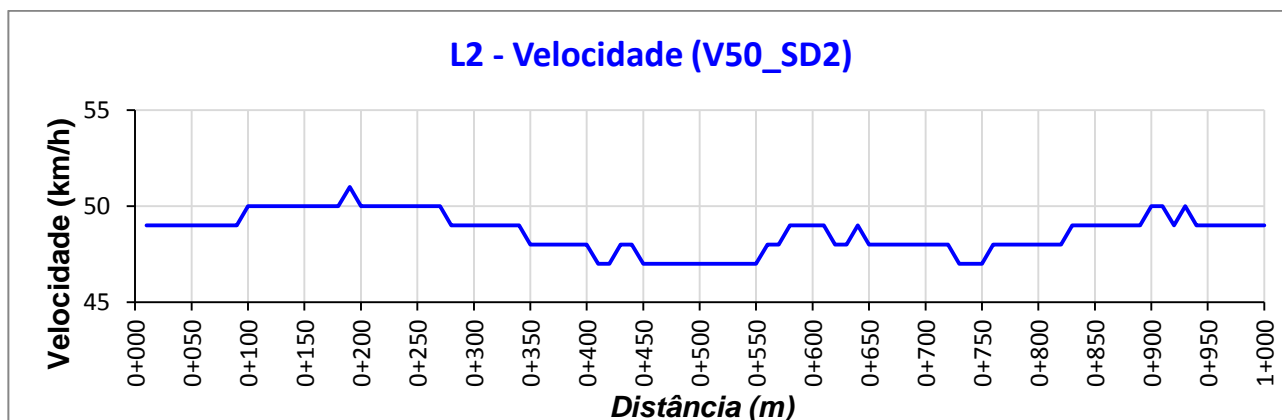
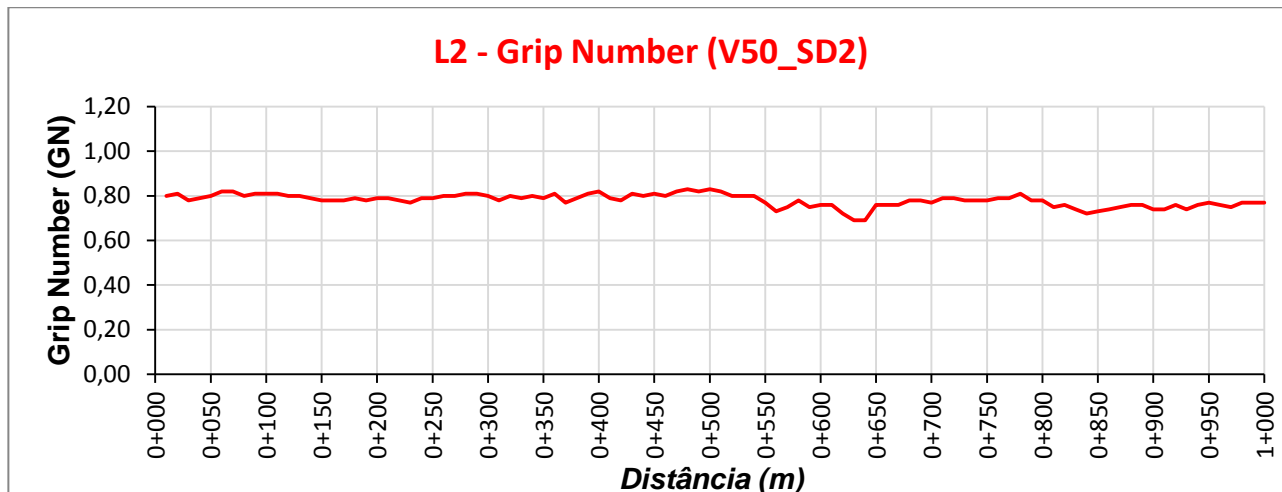


VELOCIDADE 50 KM/H

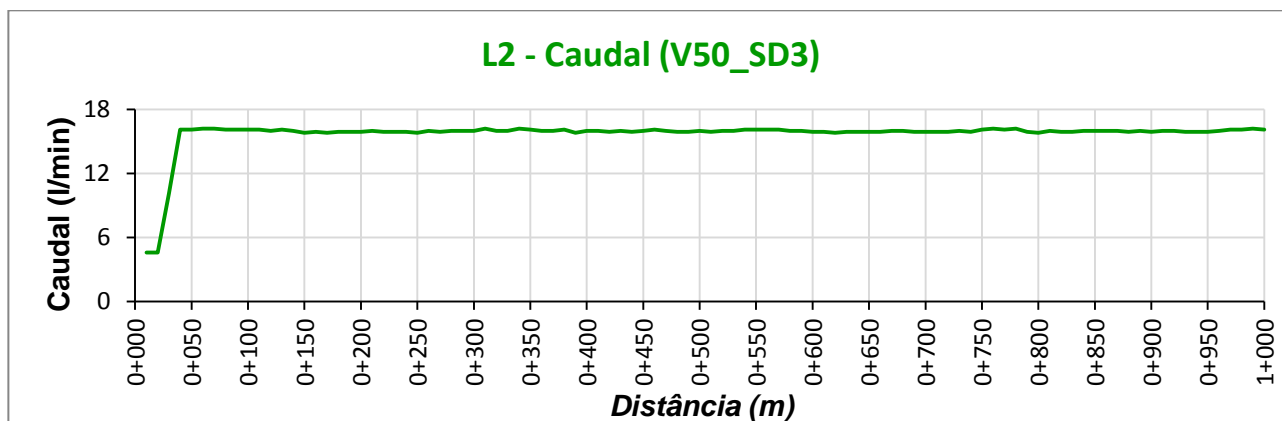
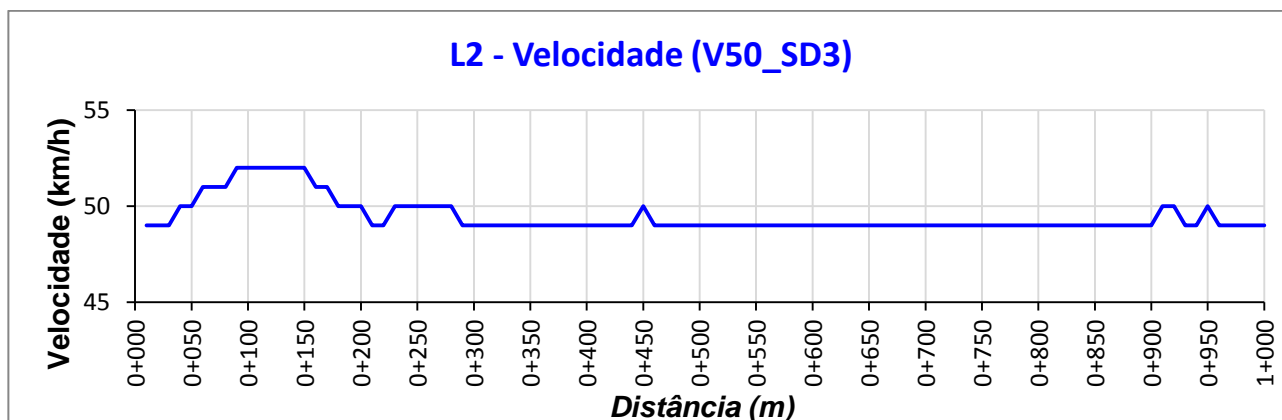
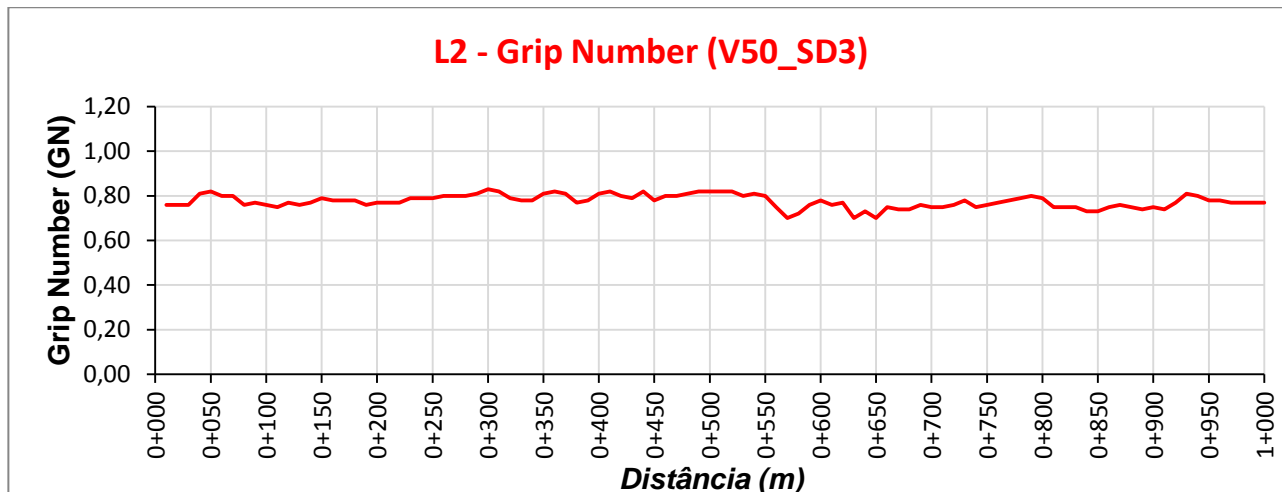


GRÁFICOS AI.32 – LABORATÓRIO 2 – V50_SD1

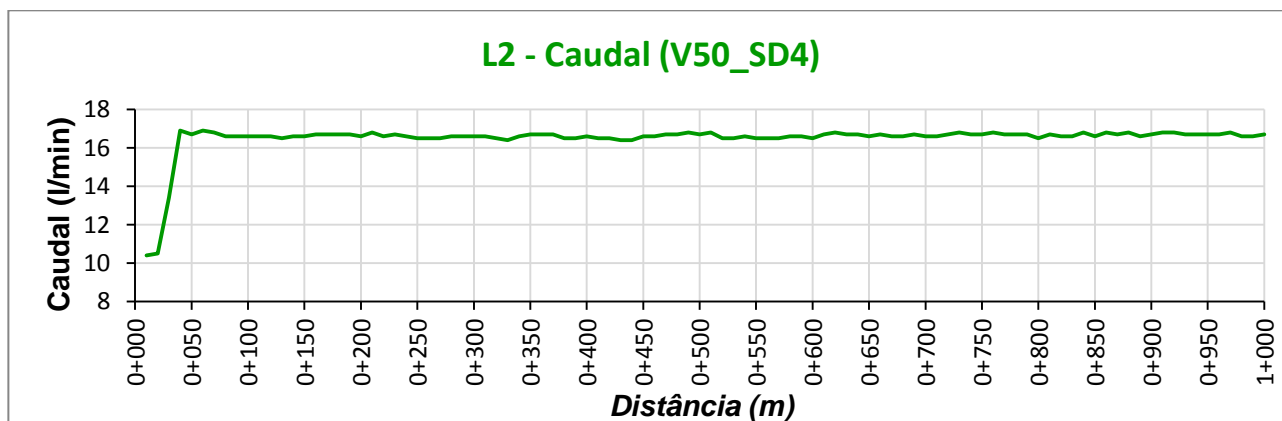
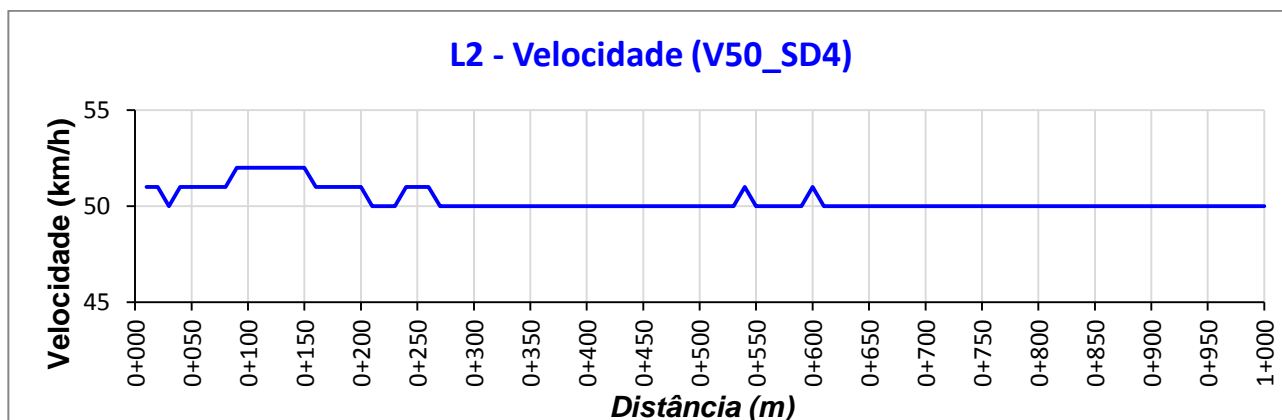
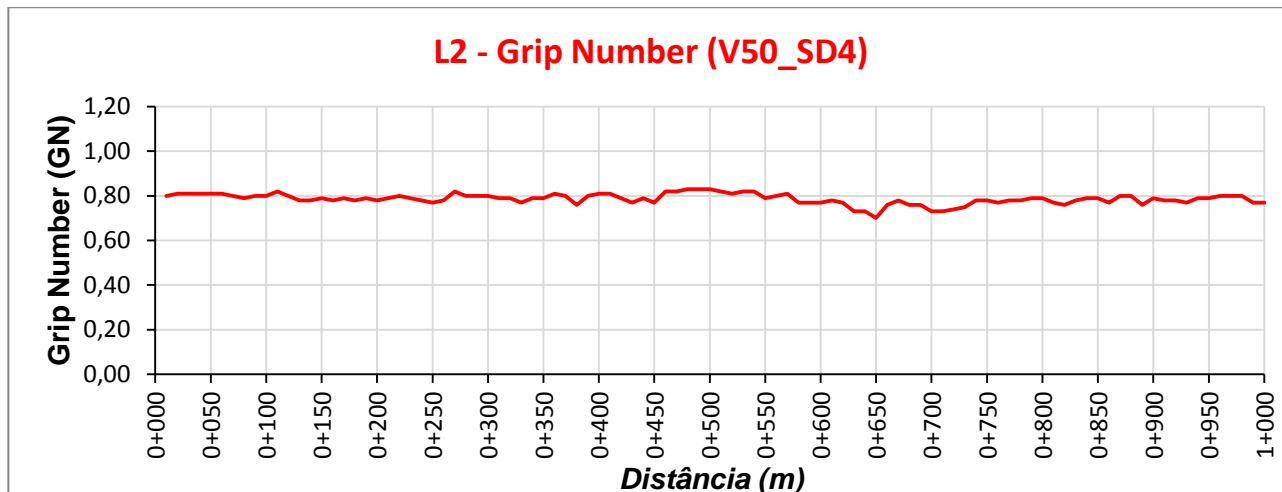
Nota: Os valores registados nesta corrida não foram considerados válidos para a análise estatística, uma vez que esta foi feita com outro veículo e outro sistema de vazão de água.



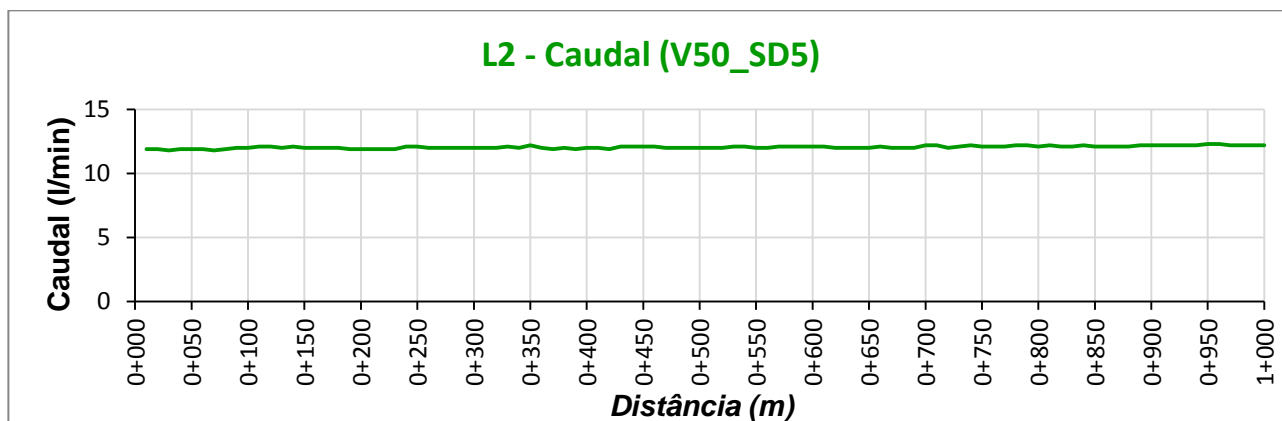
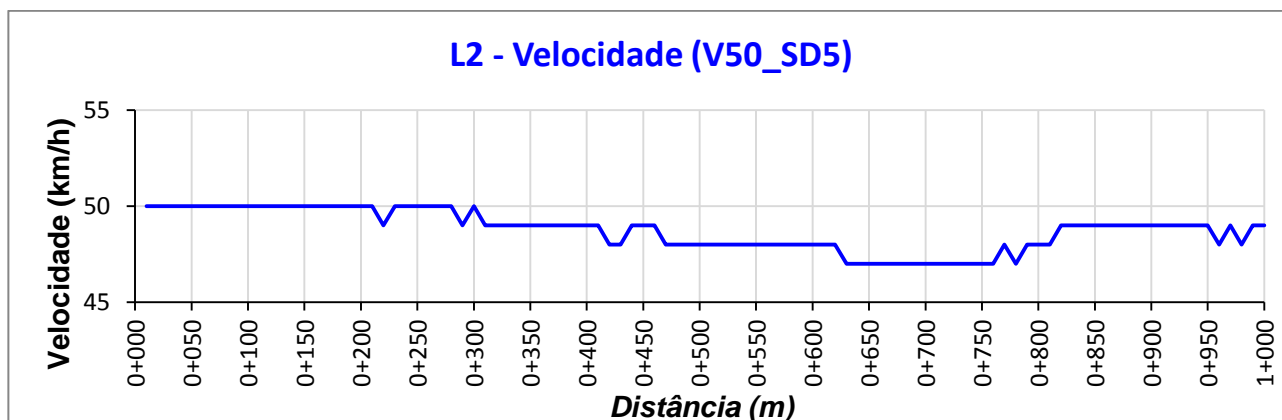
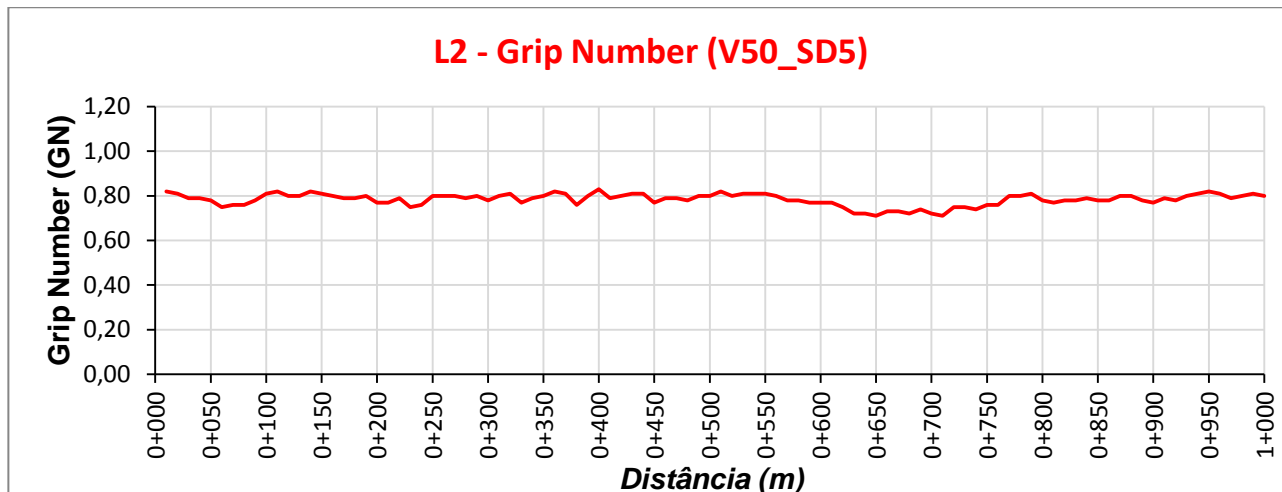
GRÁFICOS AI.33 – LABORATÓRIO 2 – V50_SD2



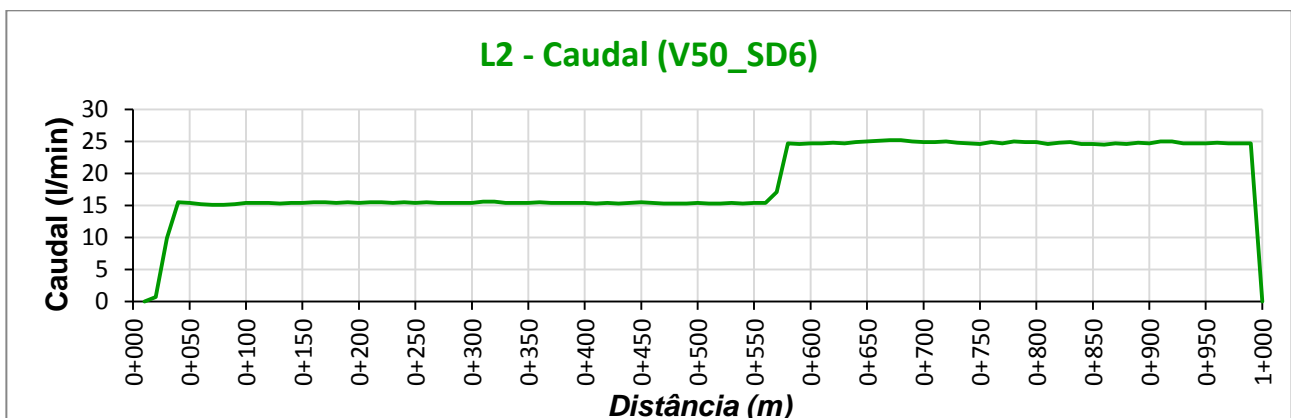
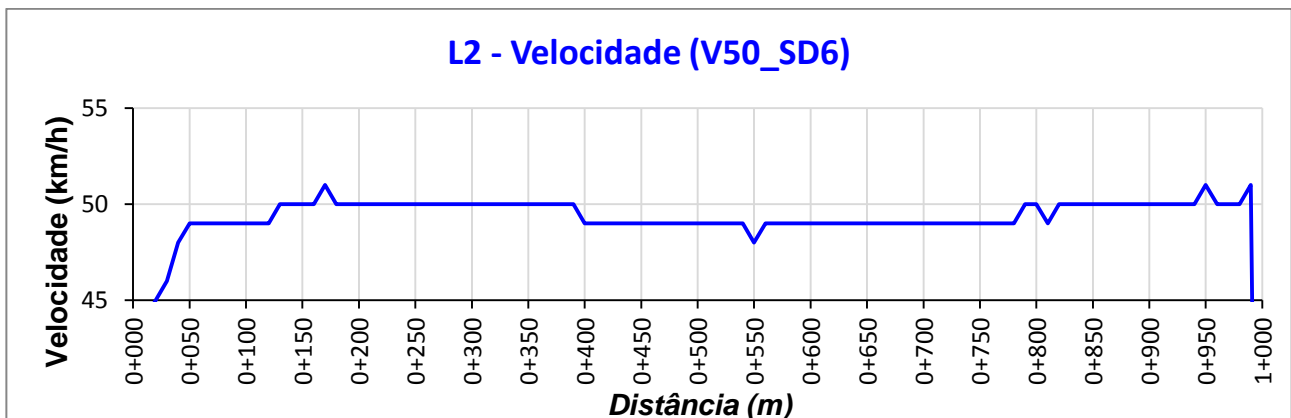
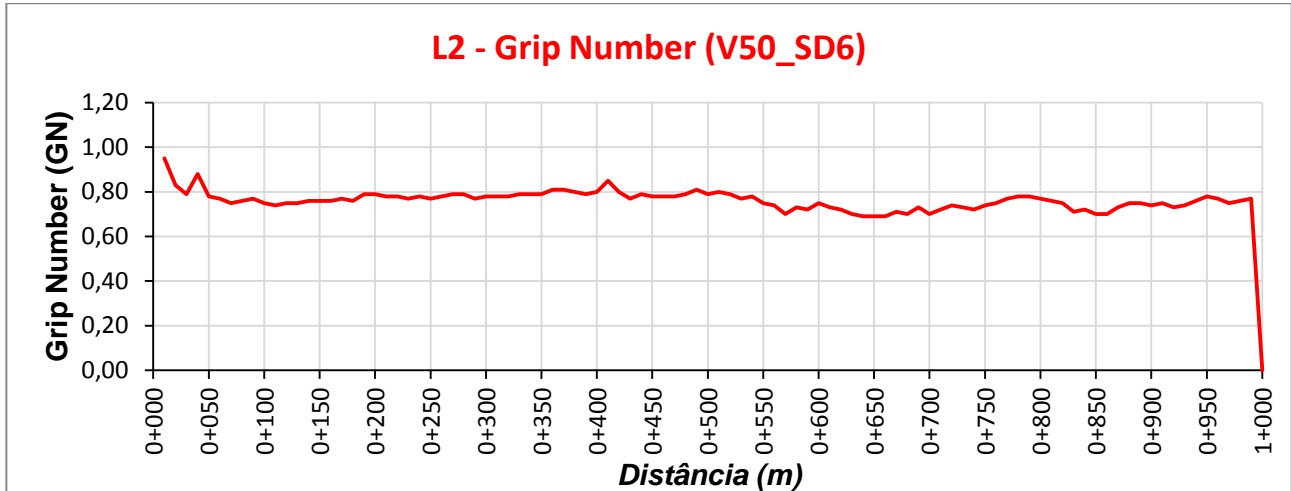
GRÁFICOS AI.34 – LABORATÓRIO 2 – V50_SD3



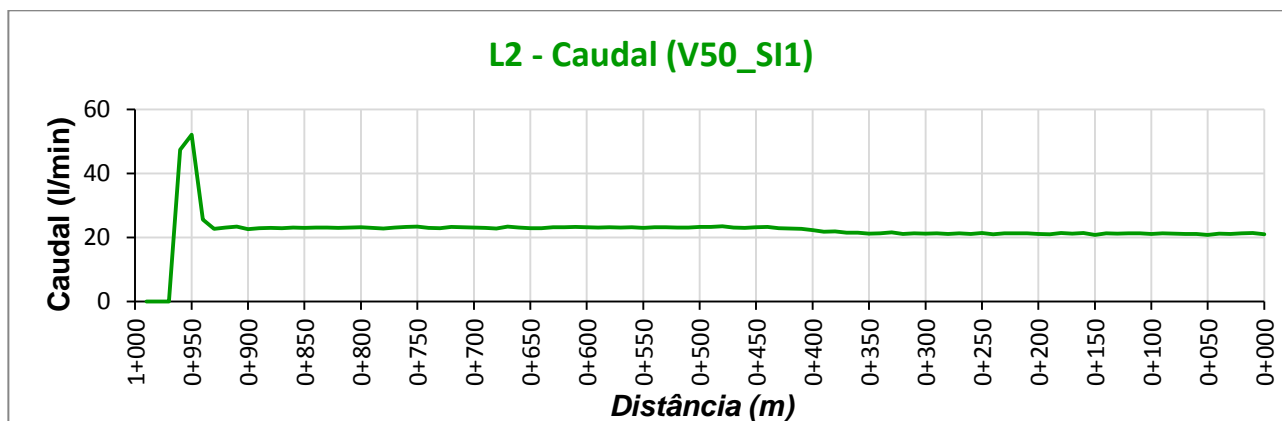
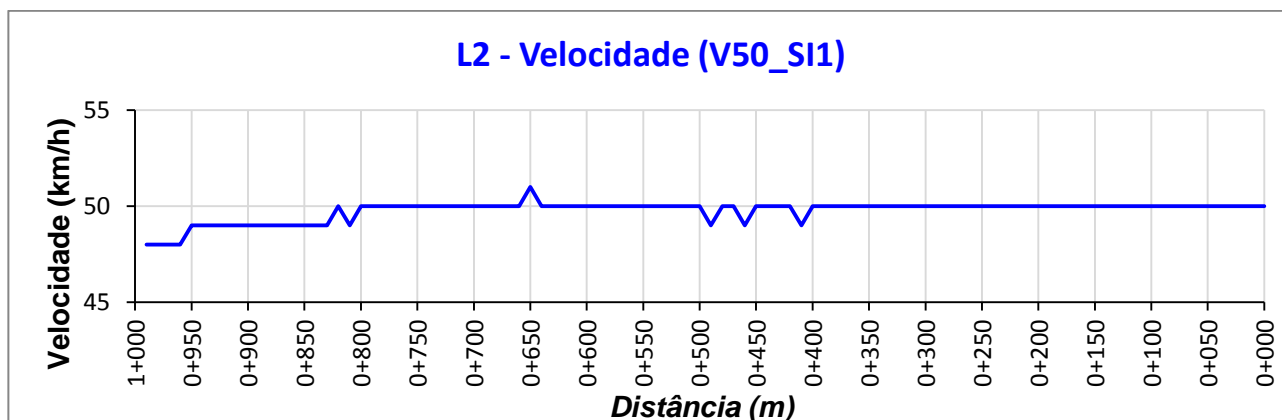
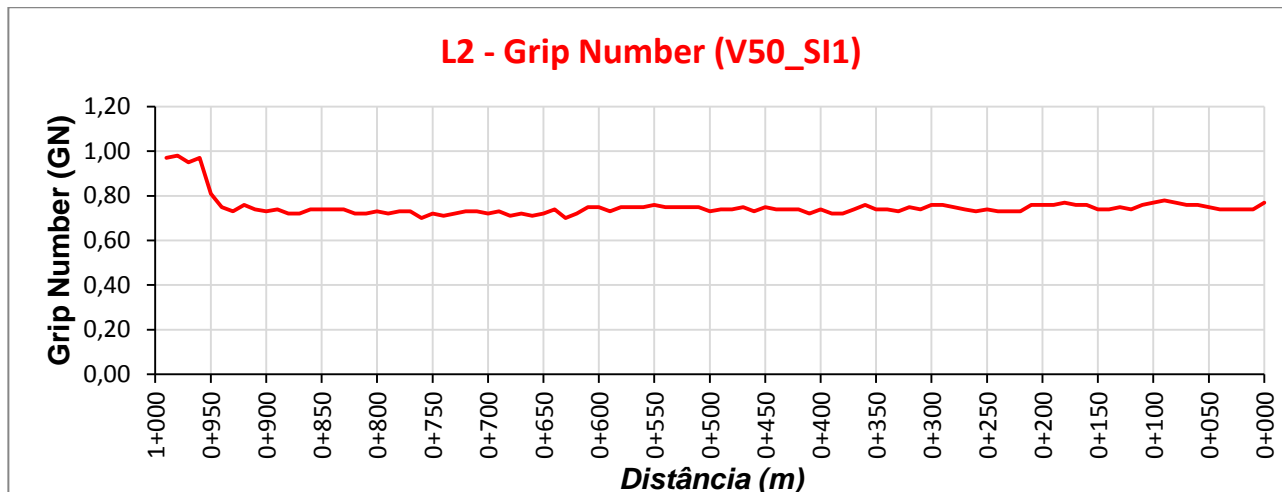
GRÁFICOS AI.35 – LABORATÓRIO 2 – V50_SD4



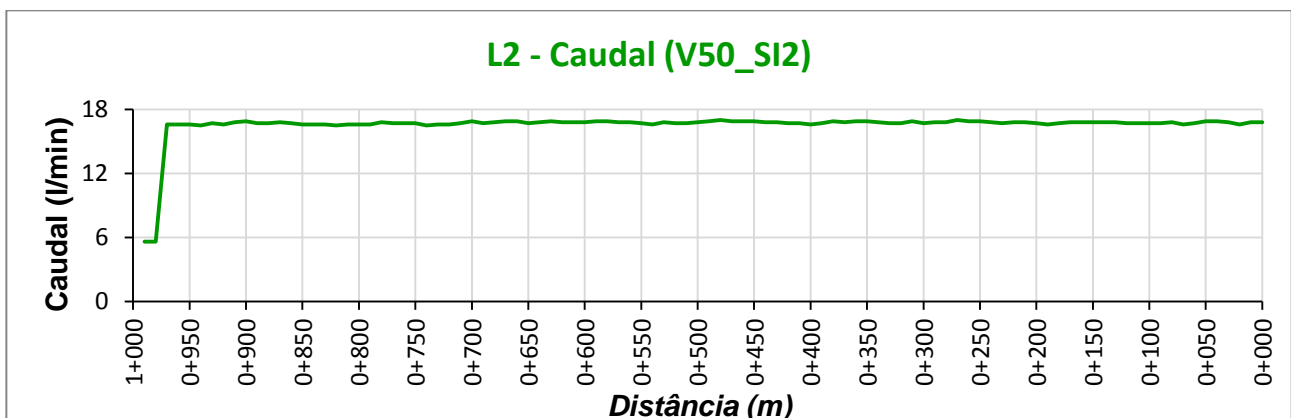
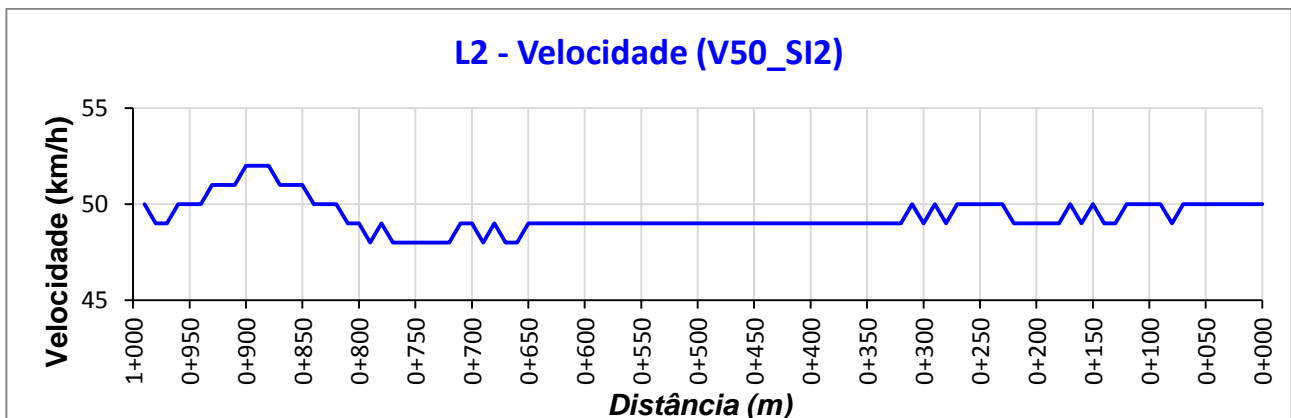
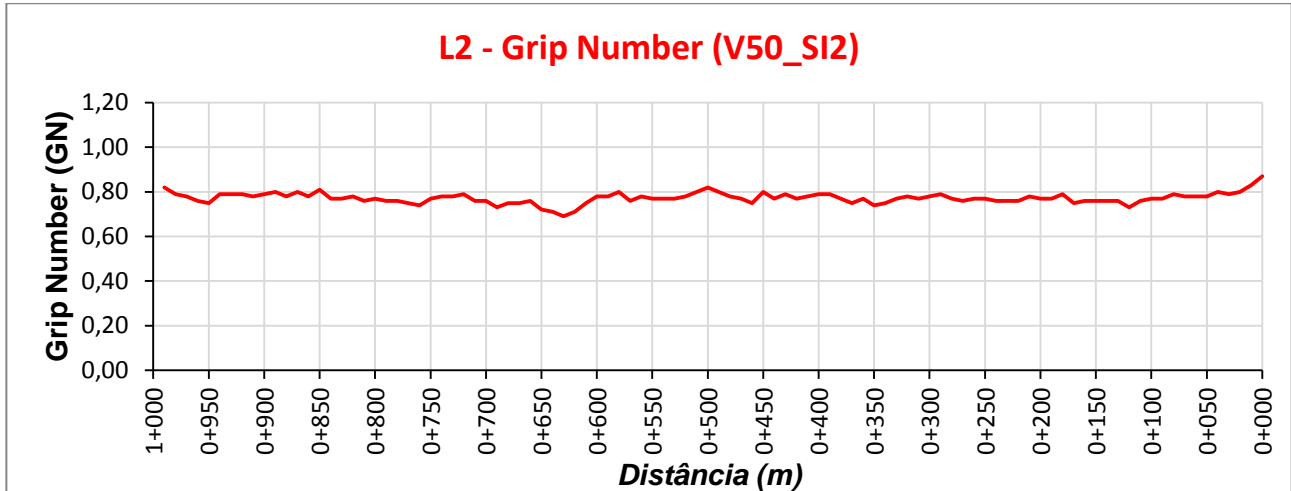
GRÁFICOS AI.36 – LABORATÓRIO 2 – V50_SD5



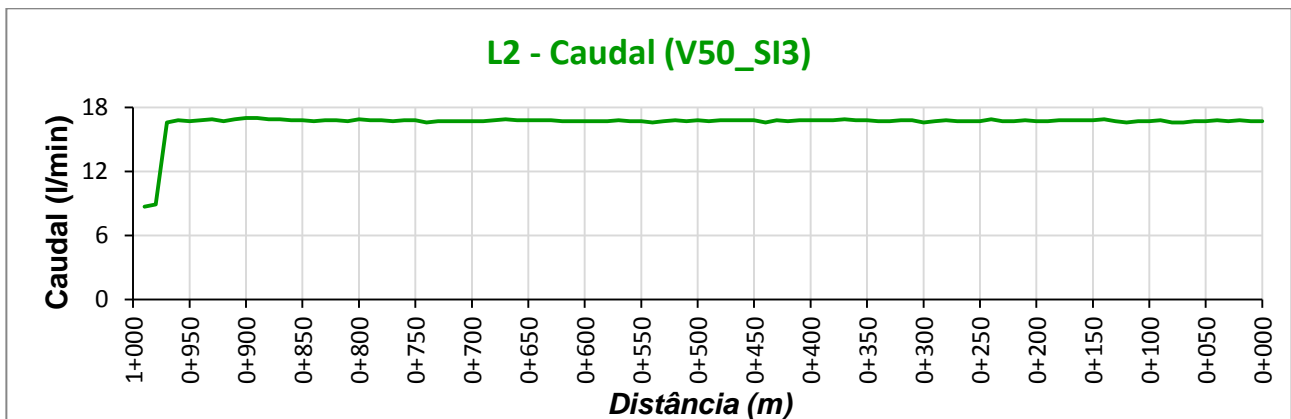
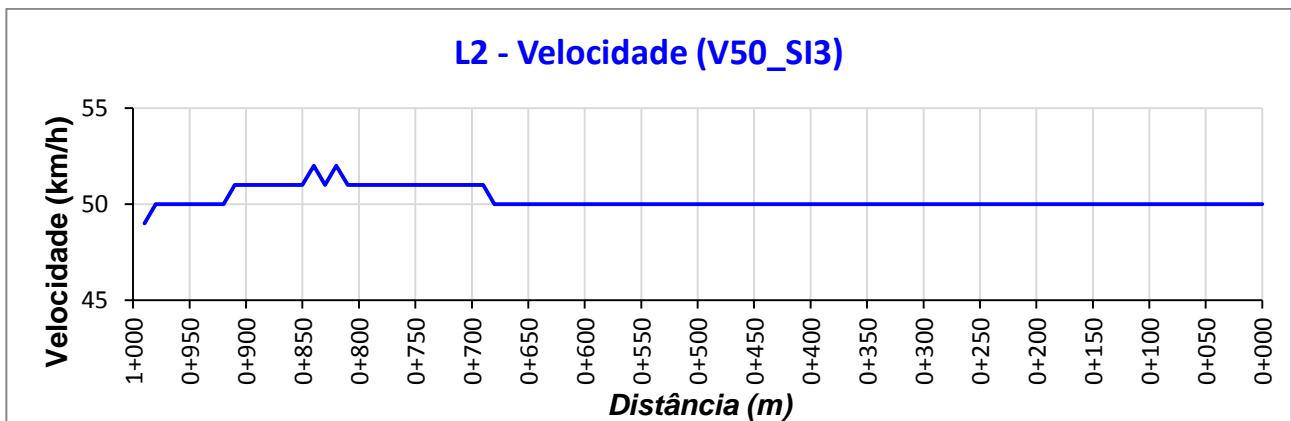
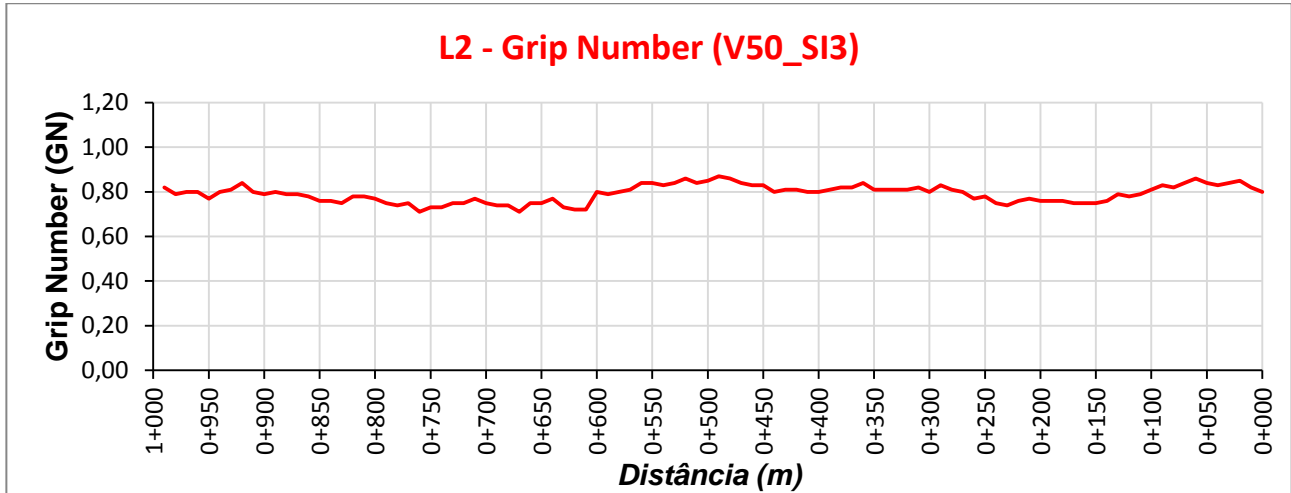
GRÁFICOS AI.37 – LABORATÓRIO 2 – V50_SD6



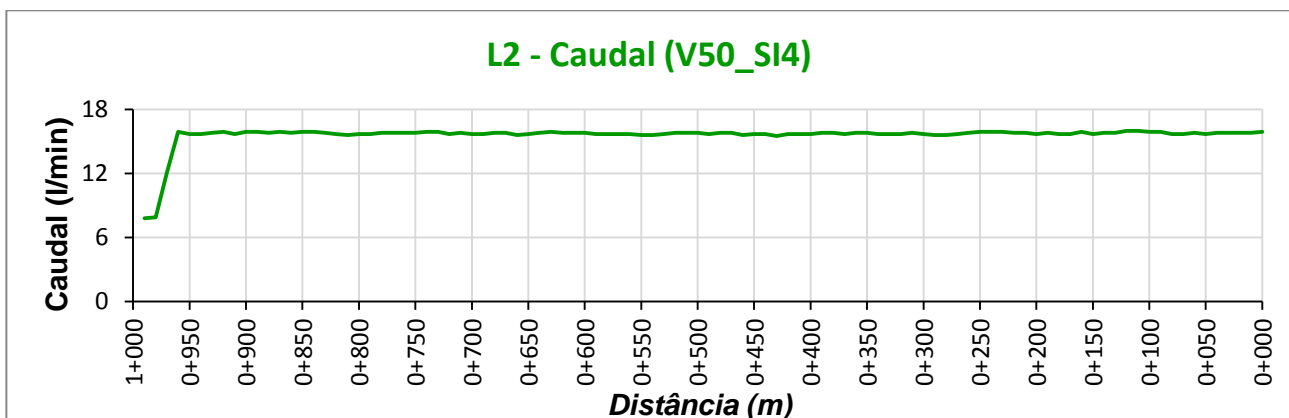
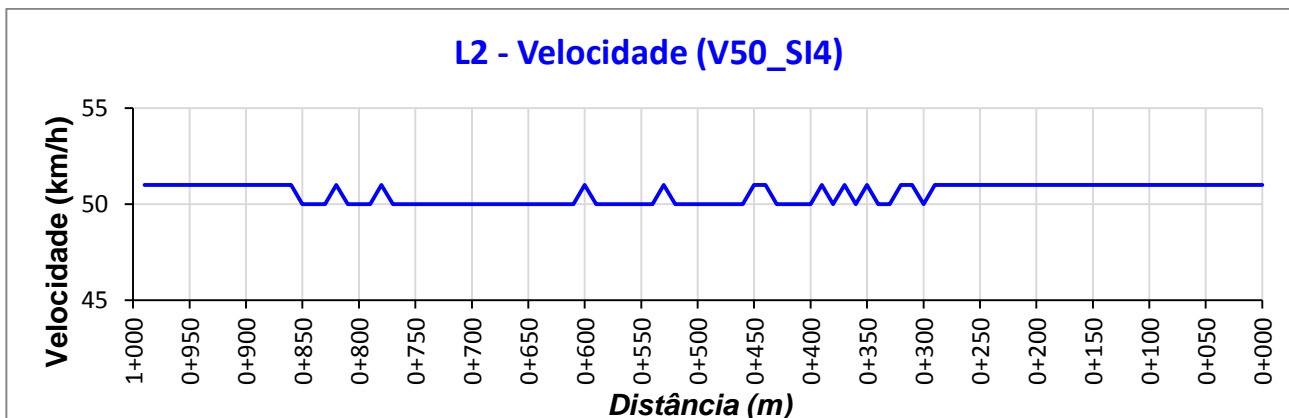
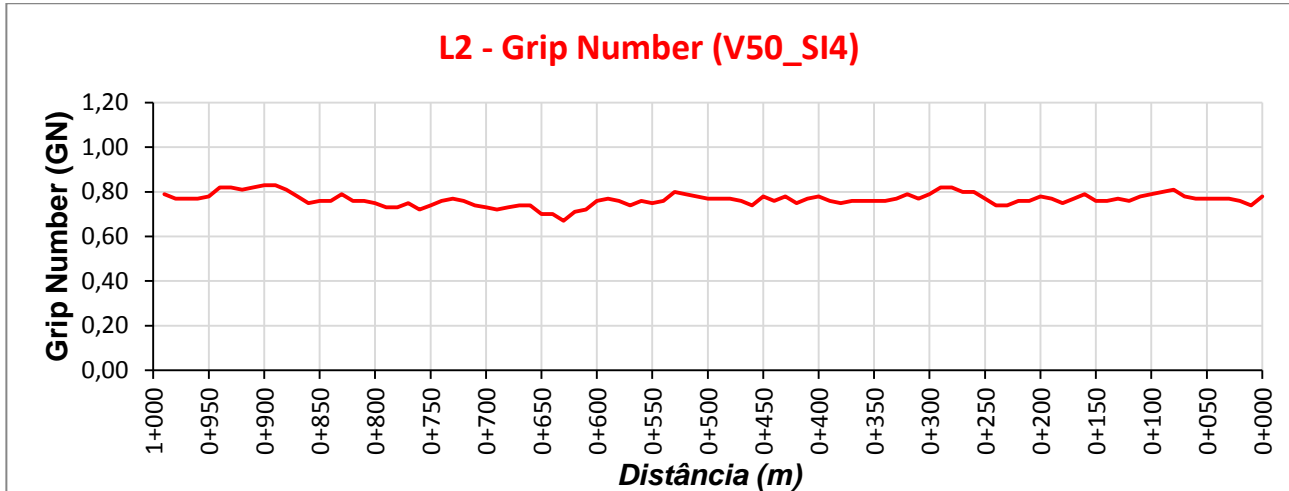
GRÁFICOS A1.38 – LABORATÓRIO 2 – V50_SI1



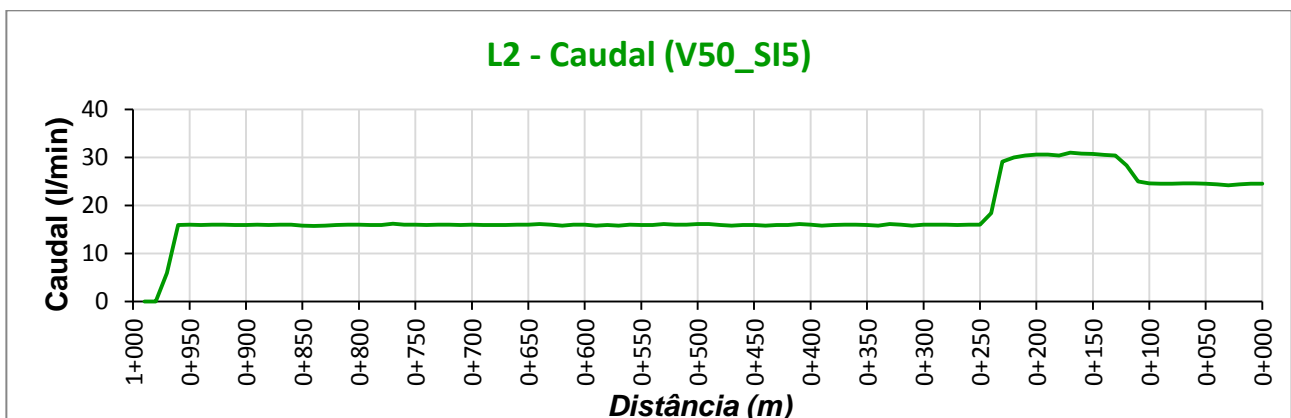
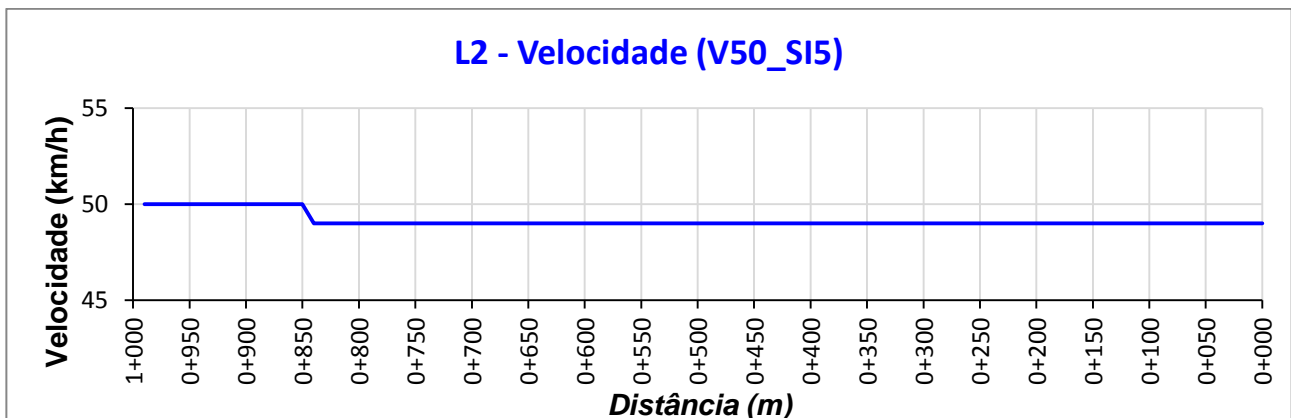
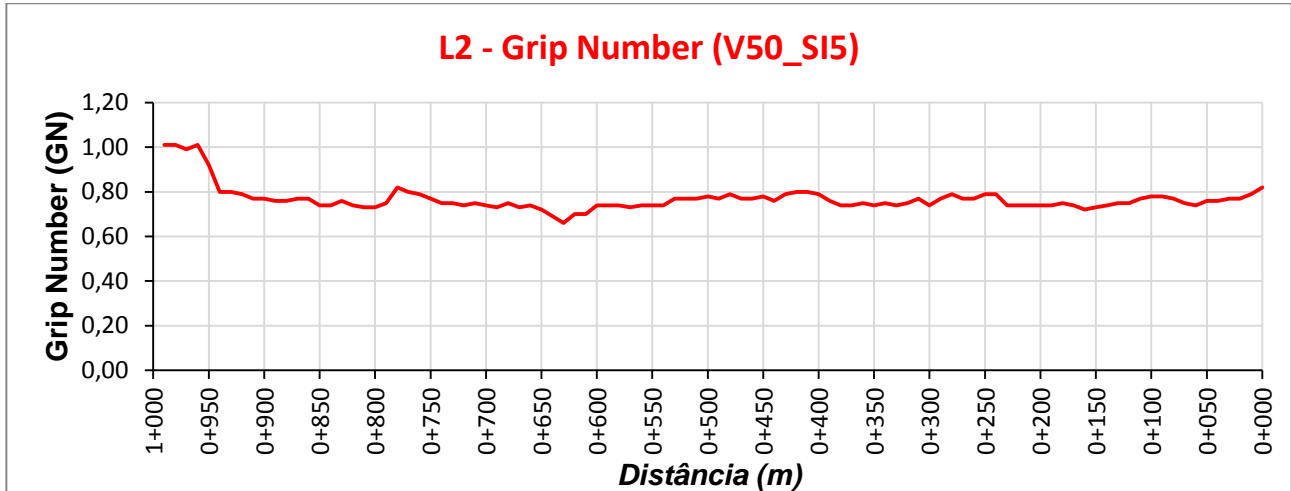
GRÁFICOS A1.39 – LABORATÓRIO 2 – V50_SI2



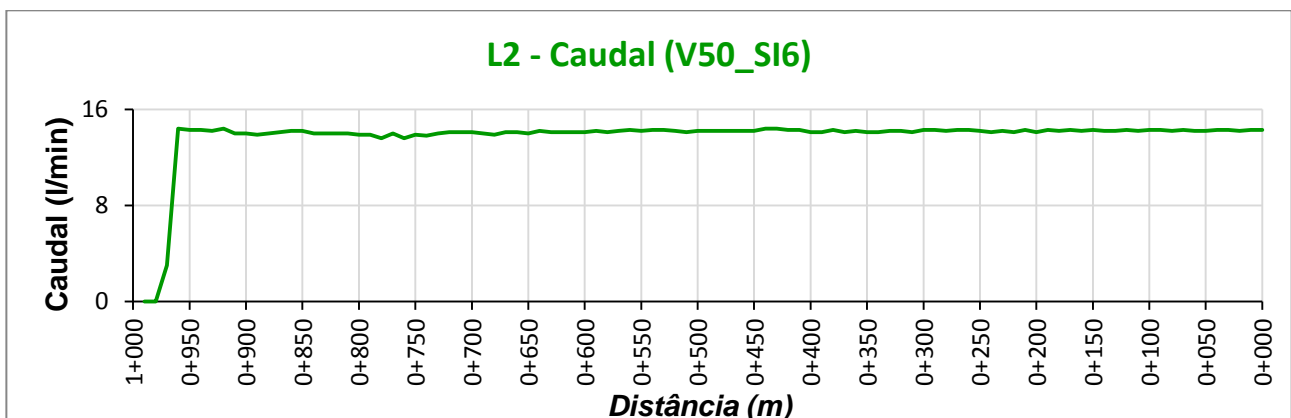
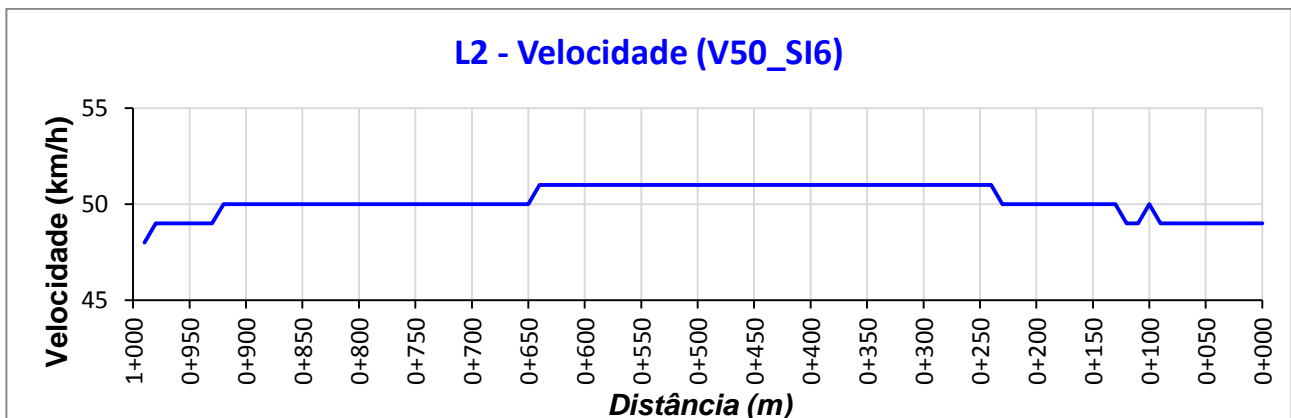
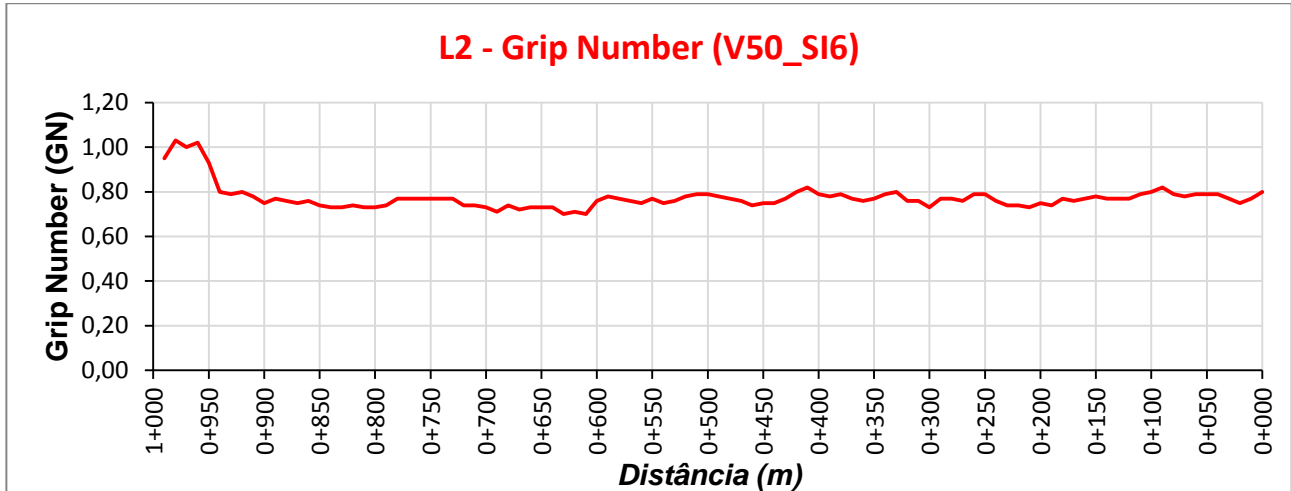
GRÁFICOS A1.40 – LABORATÓRIO 2 – V50_SI3



GRÁFICOS A1.41 – LABORATÓRIO 2 – V50_SI4



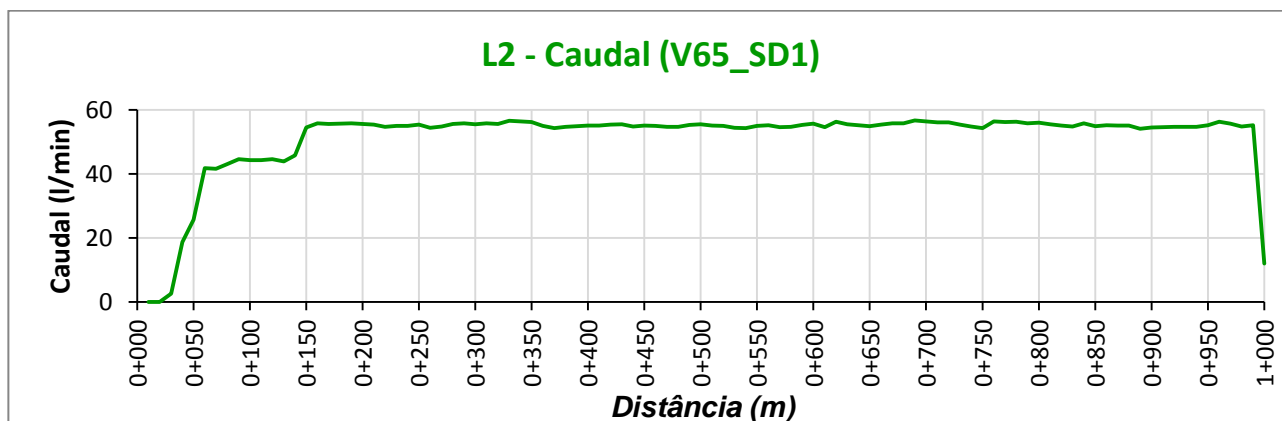
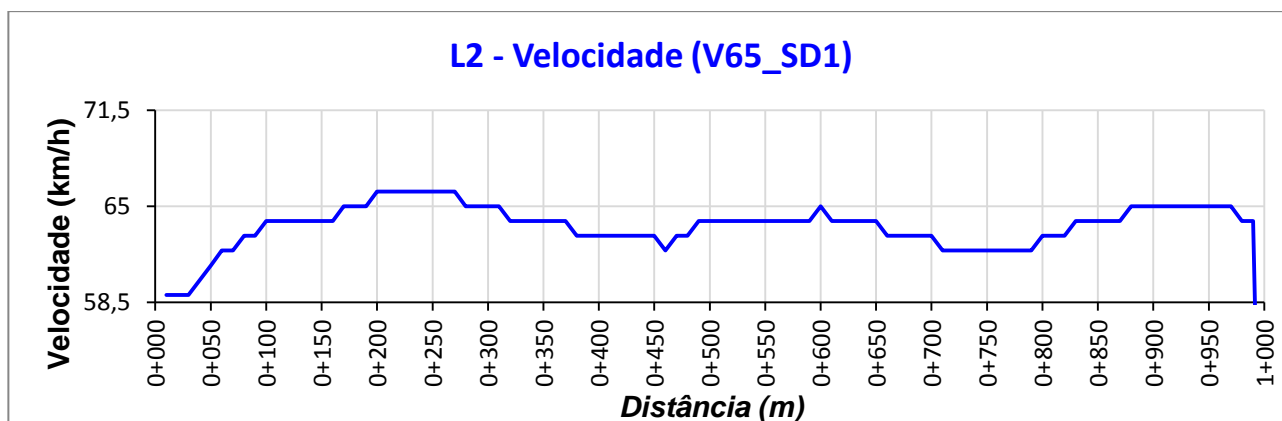
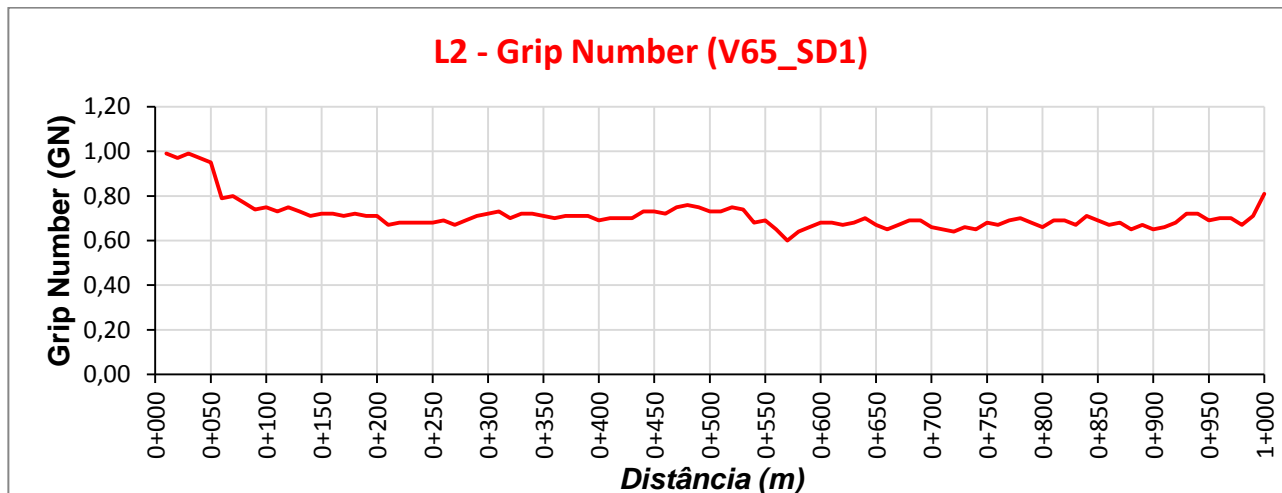
GRÁFICOS A1.42 – LABORATÓRIO 2 – V50_SI5



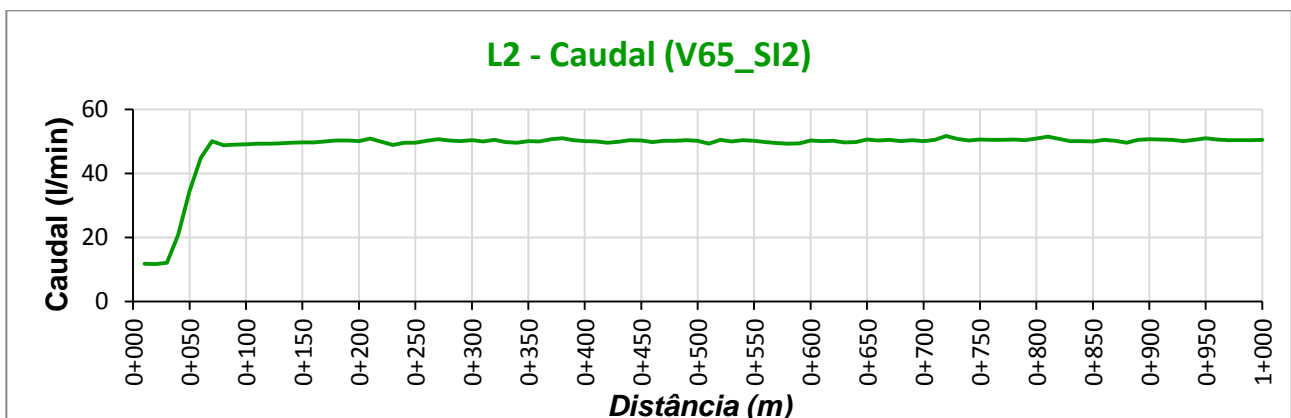
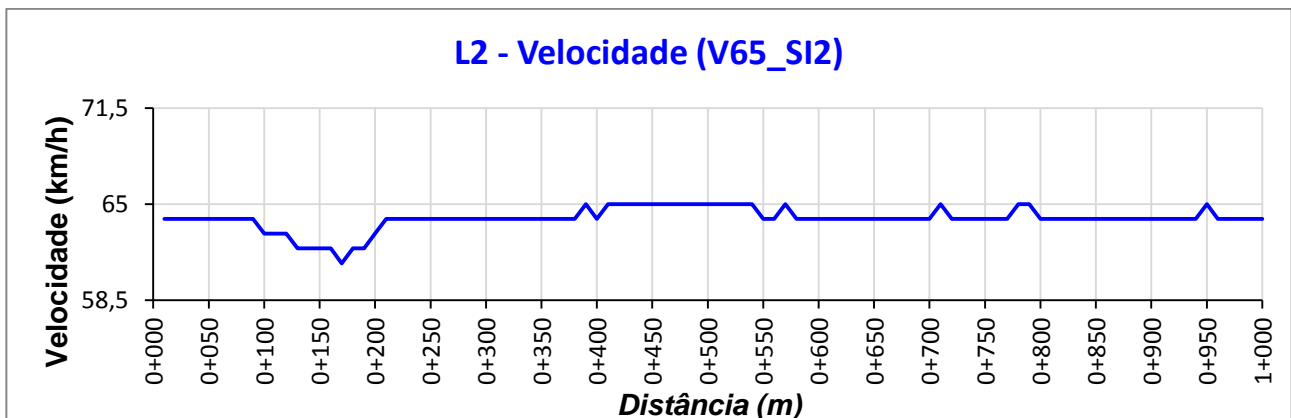
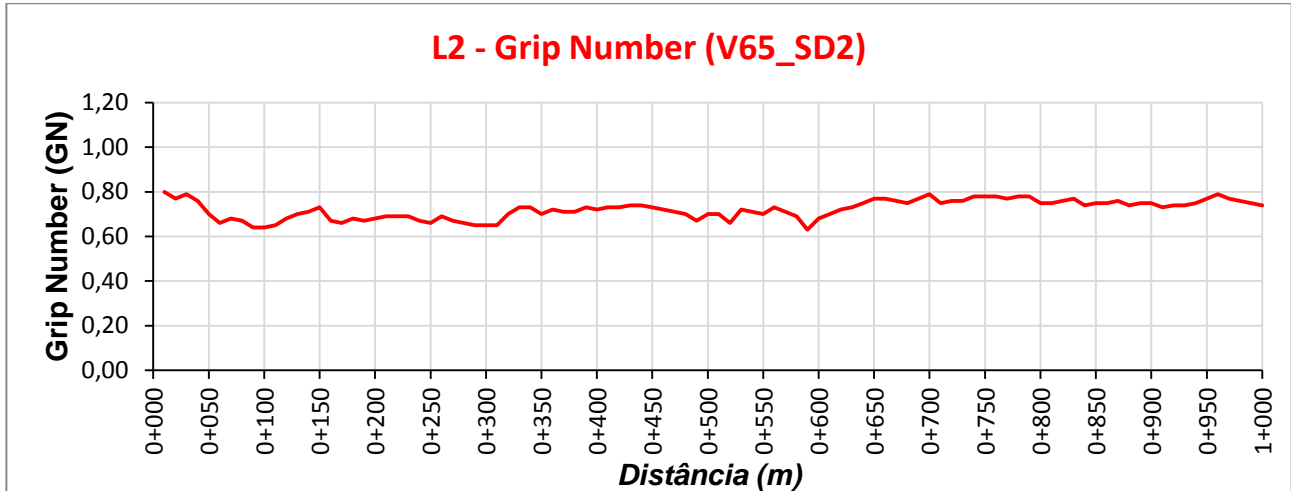
GRÁFICOS A1.43 – LABORATÓRIO 2 – V50_SI6



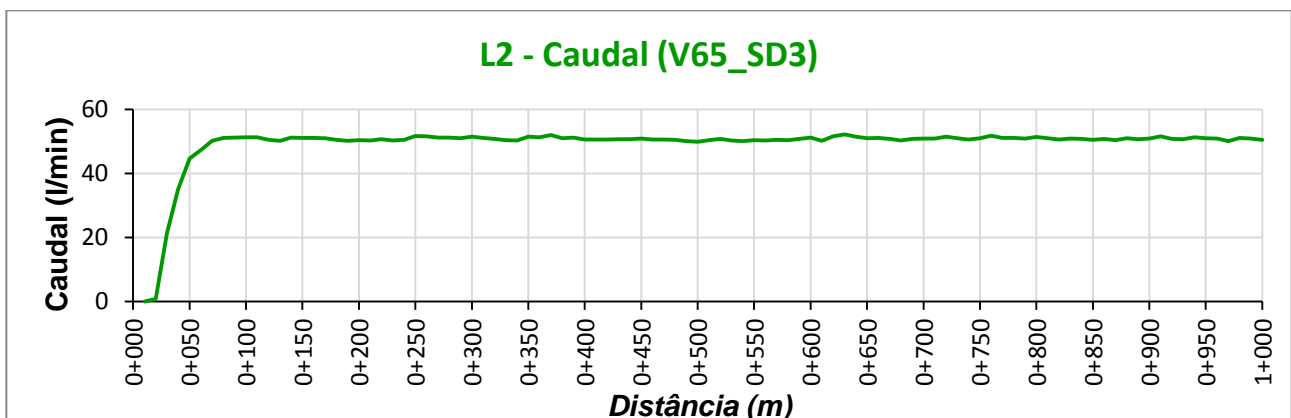
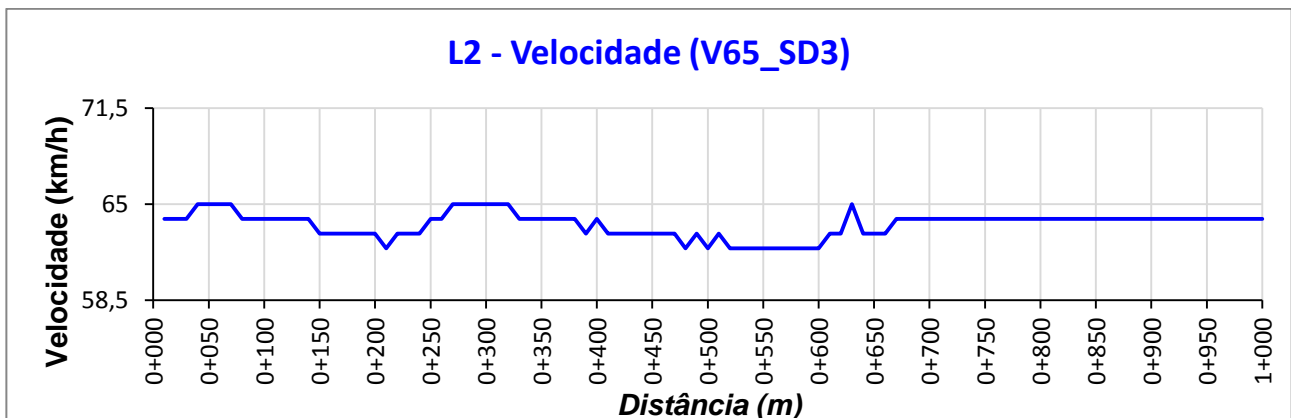
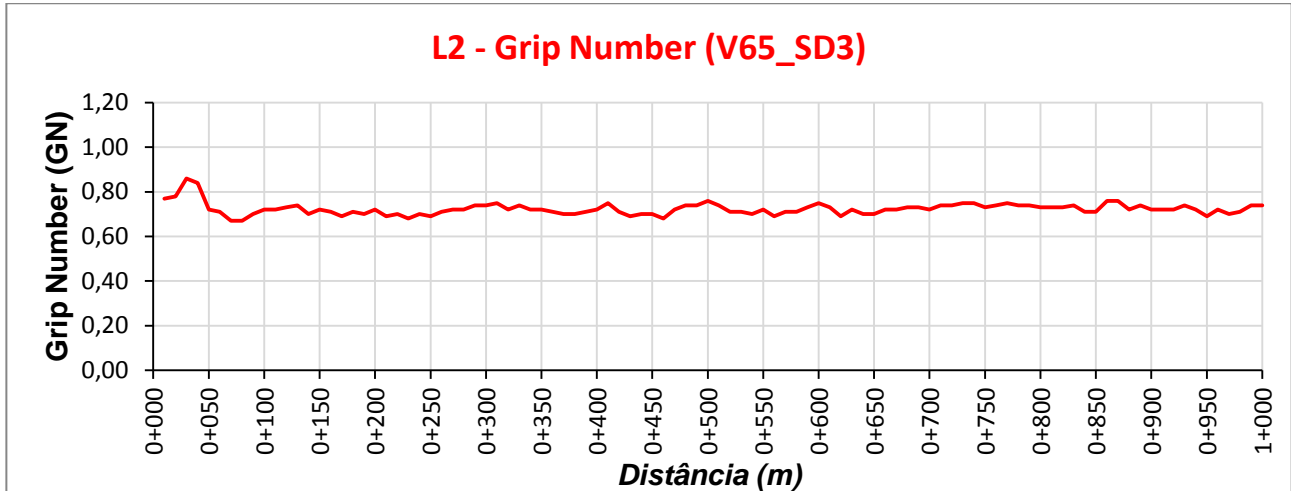
VELOCIDADE 65 KM/H



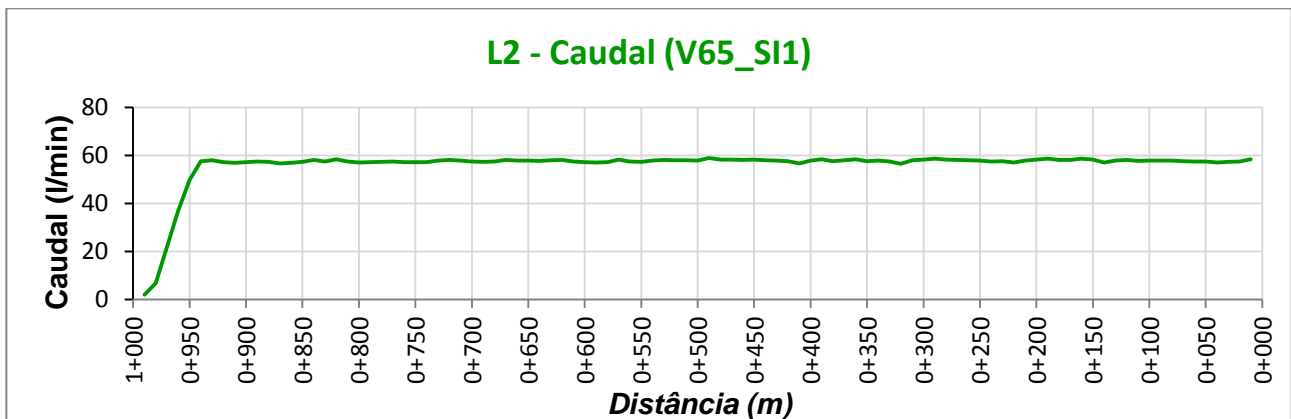
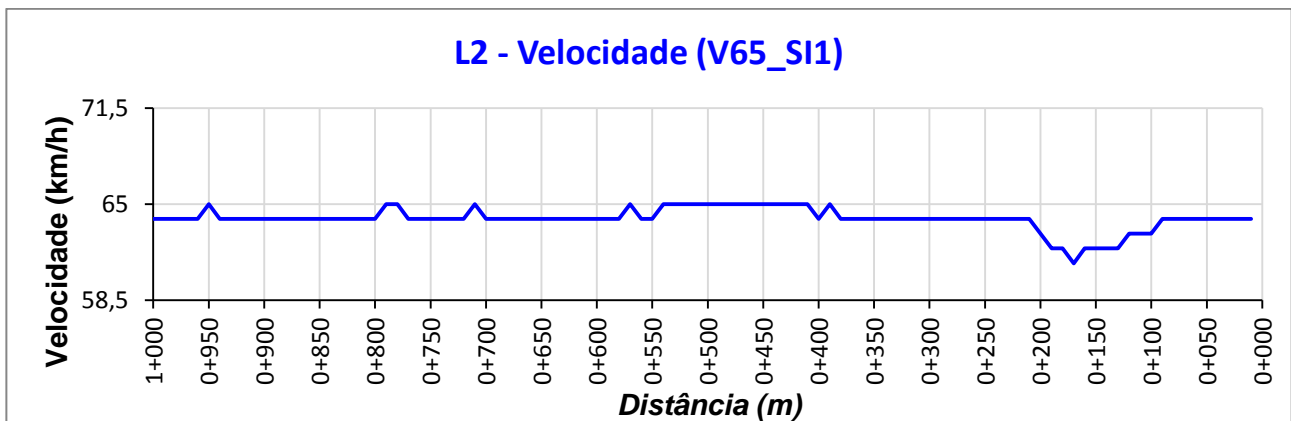
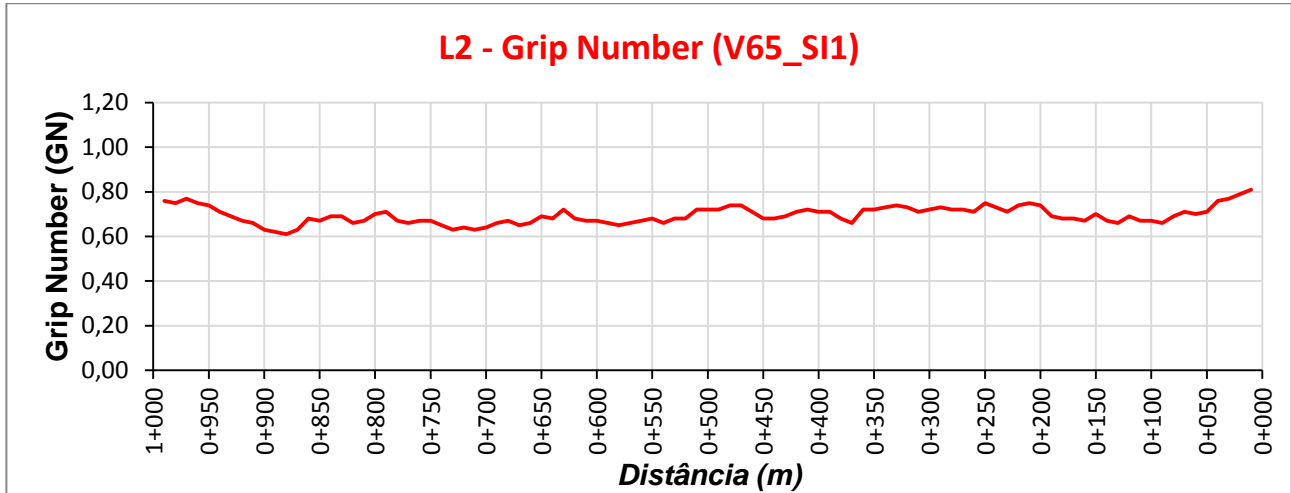
GRÁFICOS AI.44 – LABORATÓRIO 2 – V65_SD1



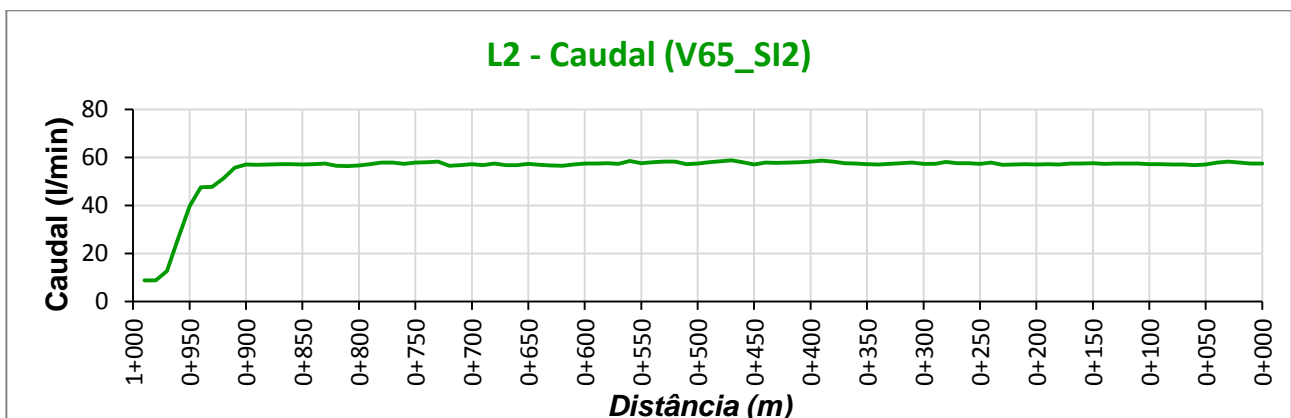
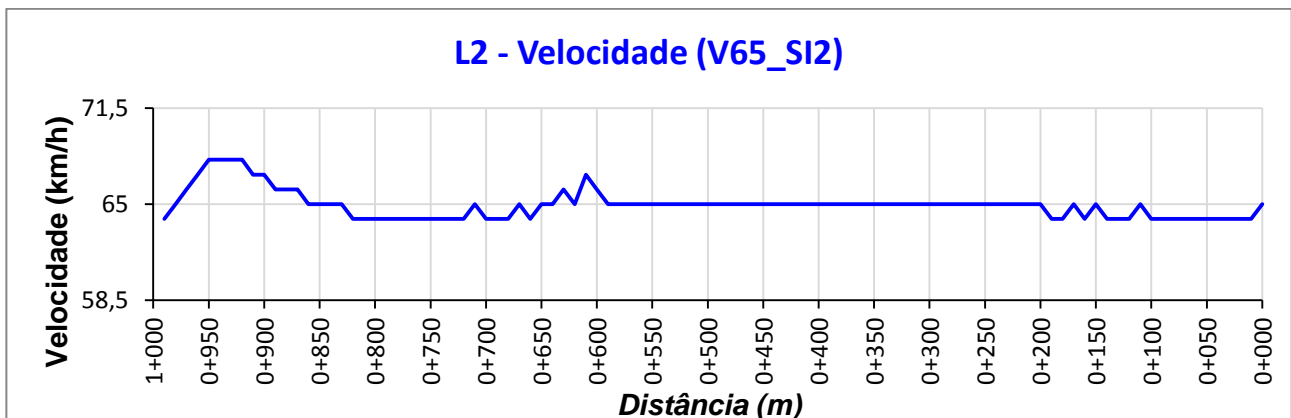
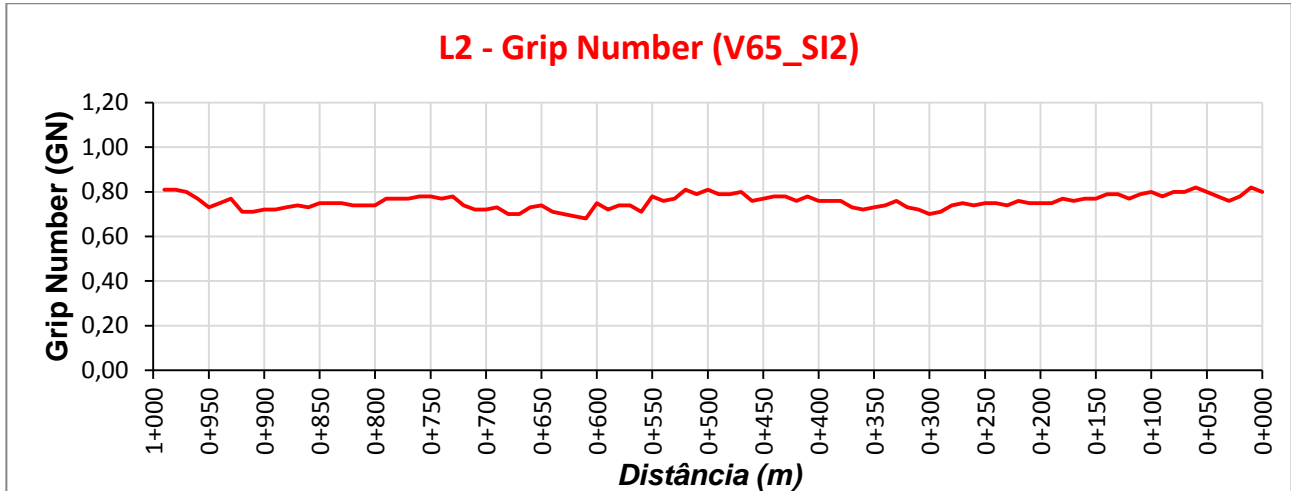
GRÁFICOS AI.45 – LABORATÓRIO 2 – V65_SD2



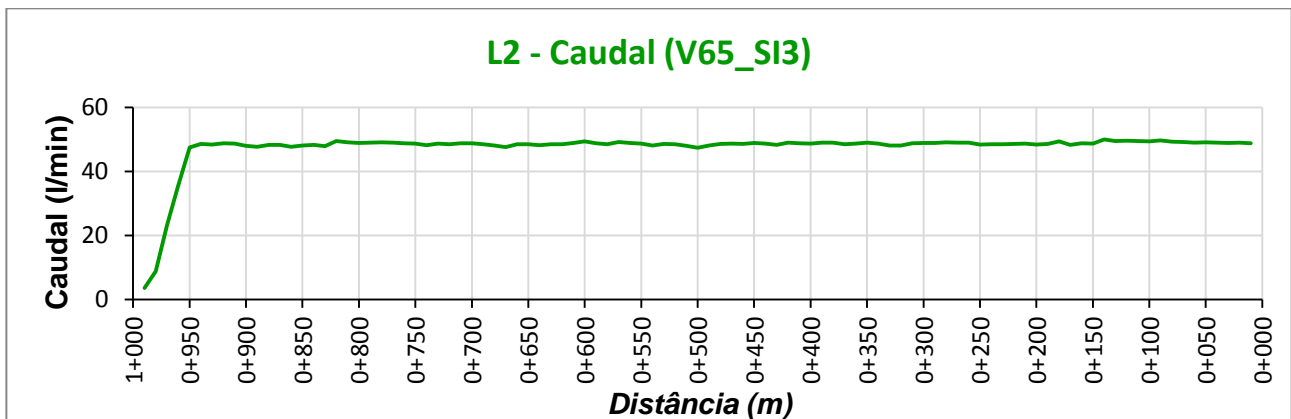
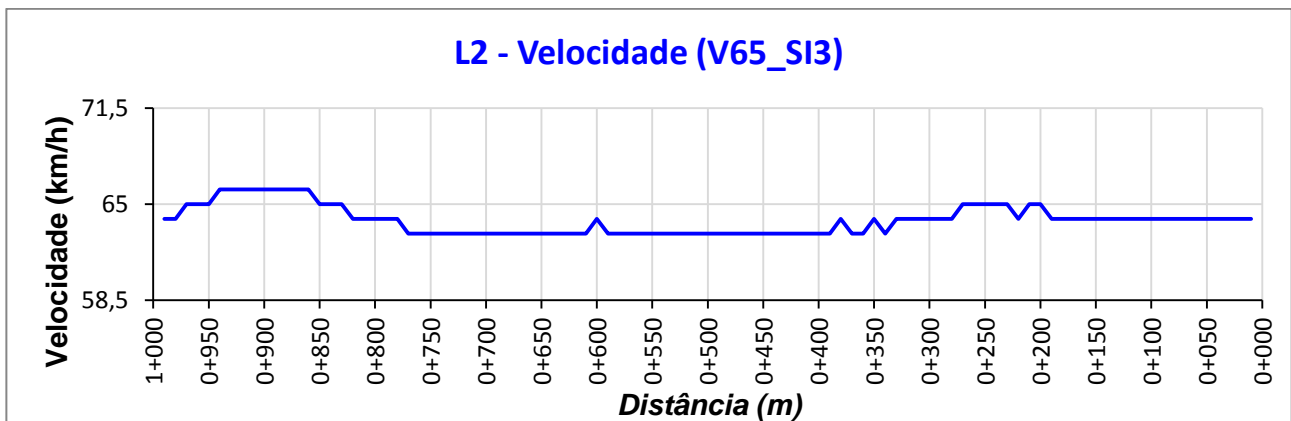
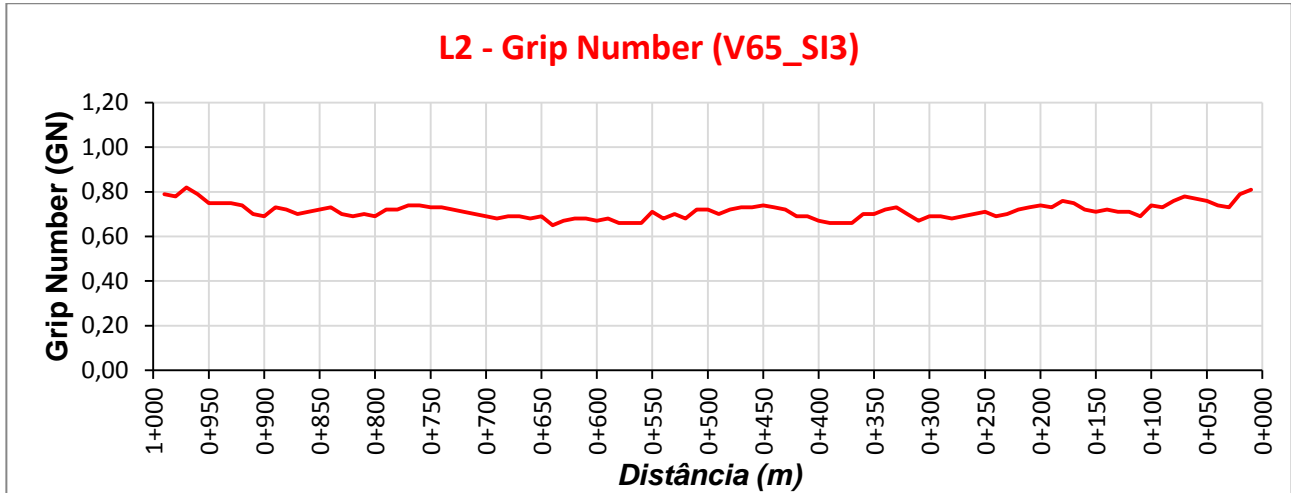
GRÁFICOS AI.46 – LABORATÓRIO 2 – V65_SD3



GRÁFICOS A1.47 – LABORATÓRIO 2 – V65_SI1



GRÁFICOS A1.48 – LABORATÓRIO 2 – V65_SI2

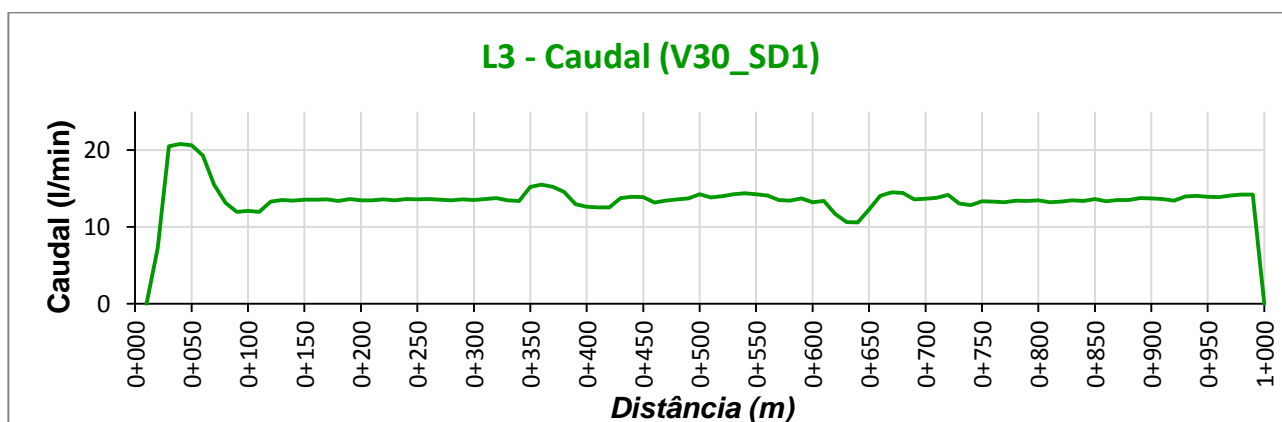
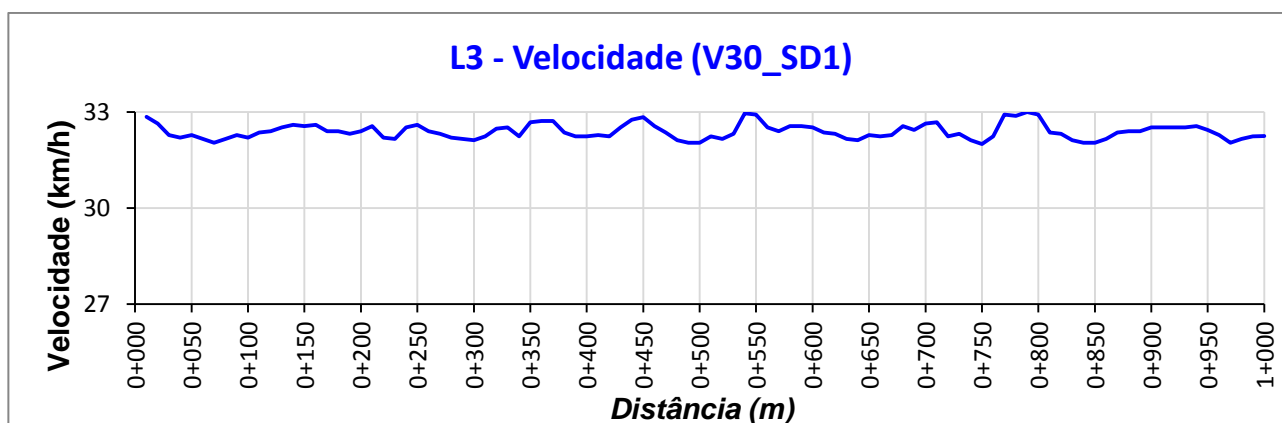
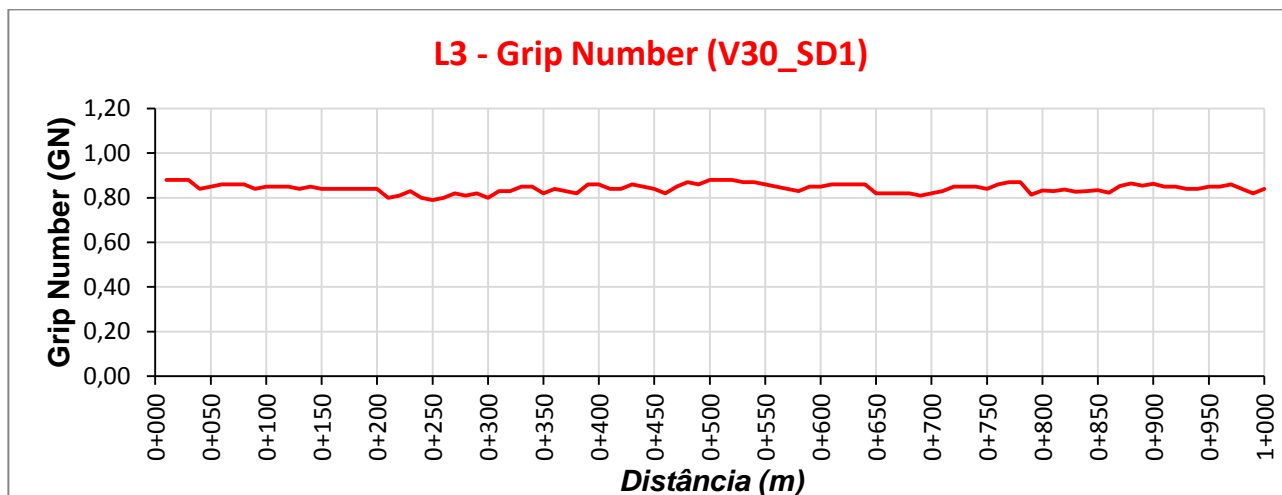


GRÁFICOS A1.49 – LABORATÓRIO 2 – V65_SI3

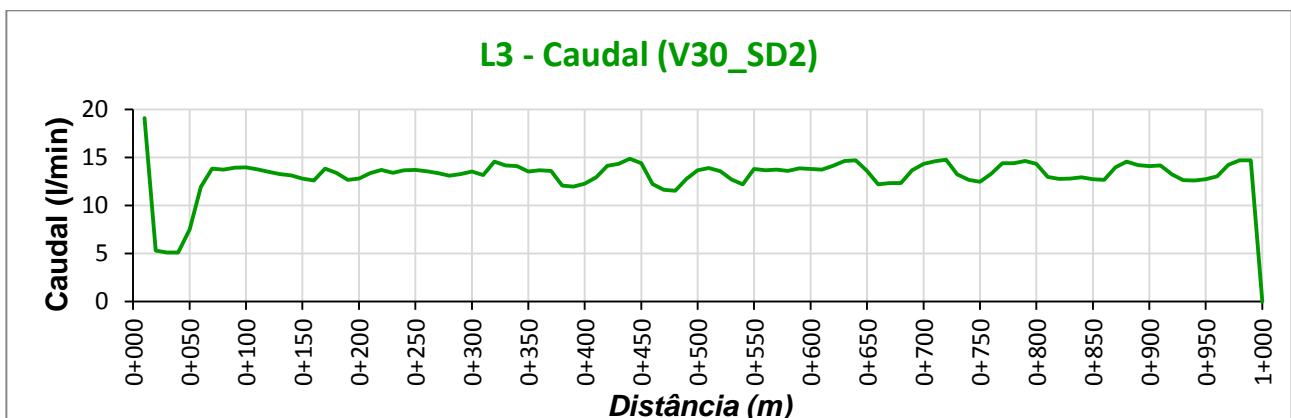
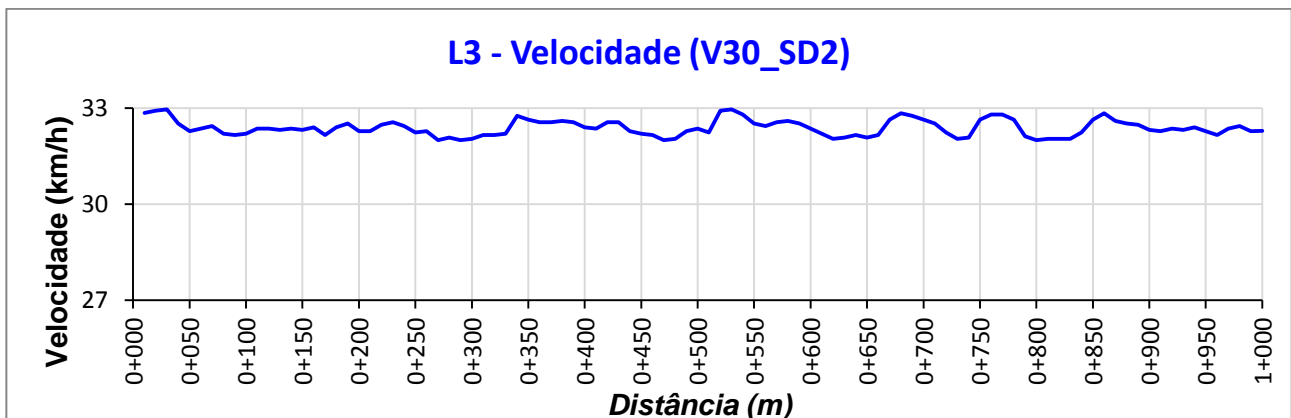
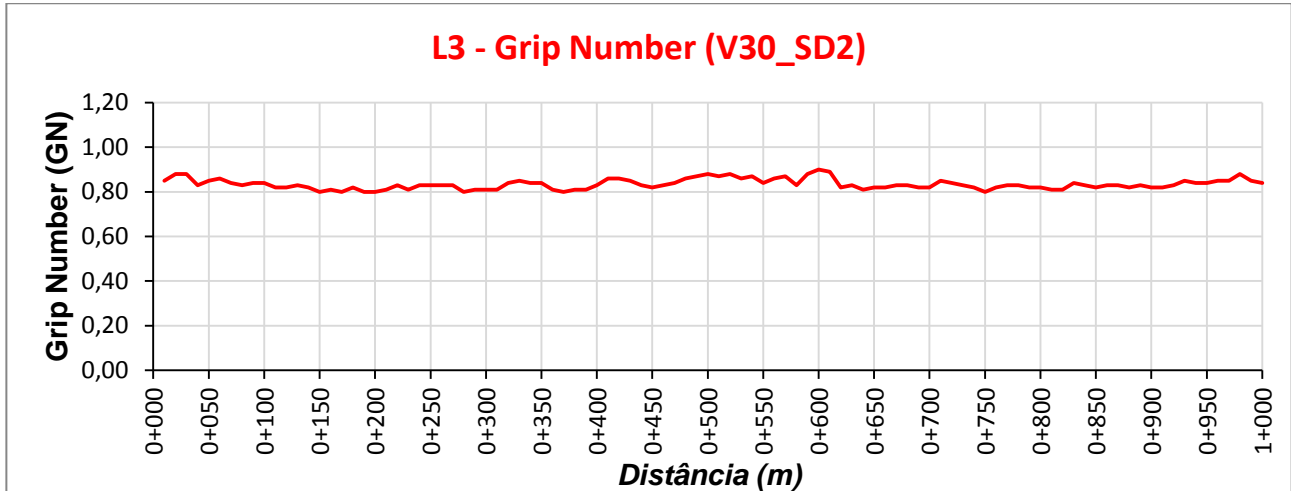
3. LABORATÓRIO 3



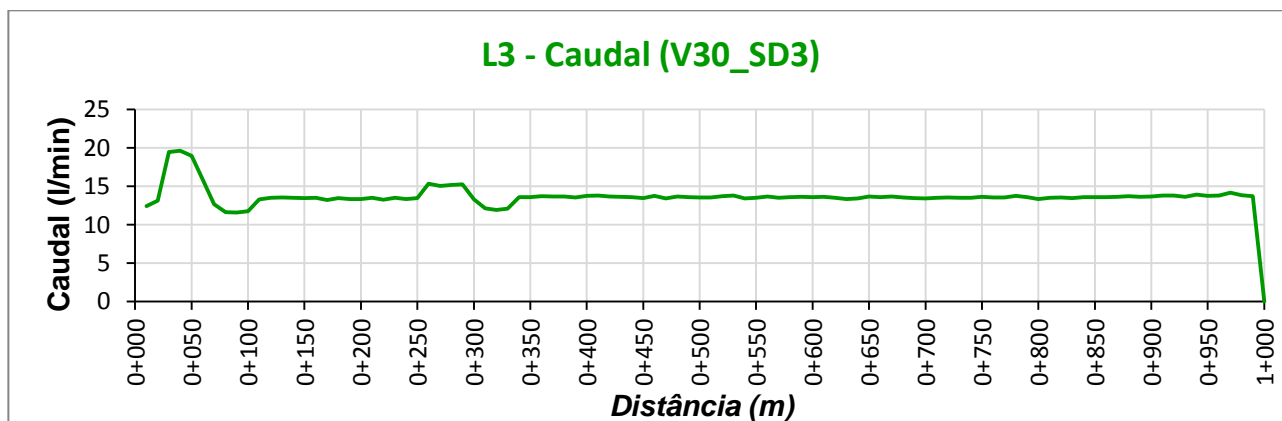
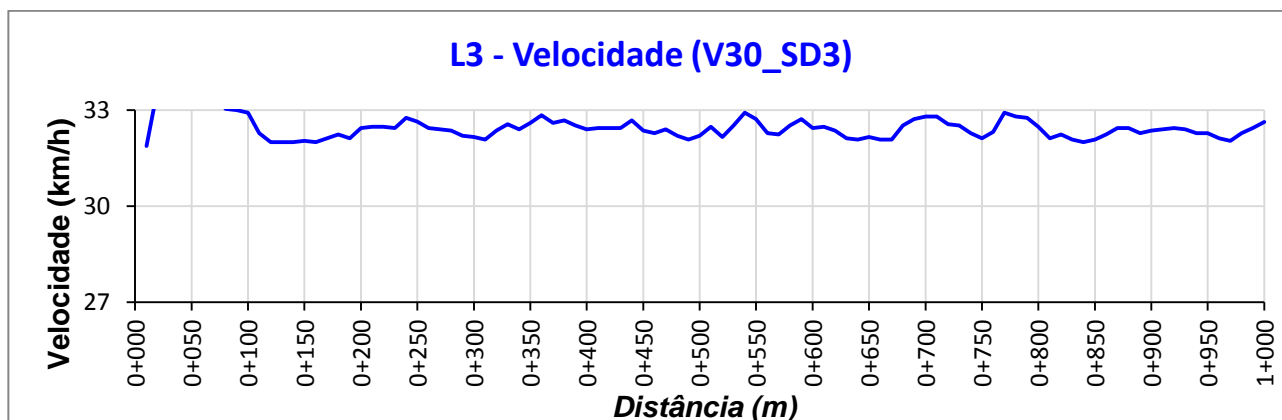
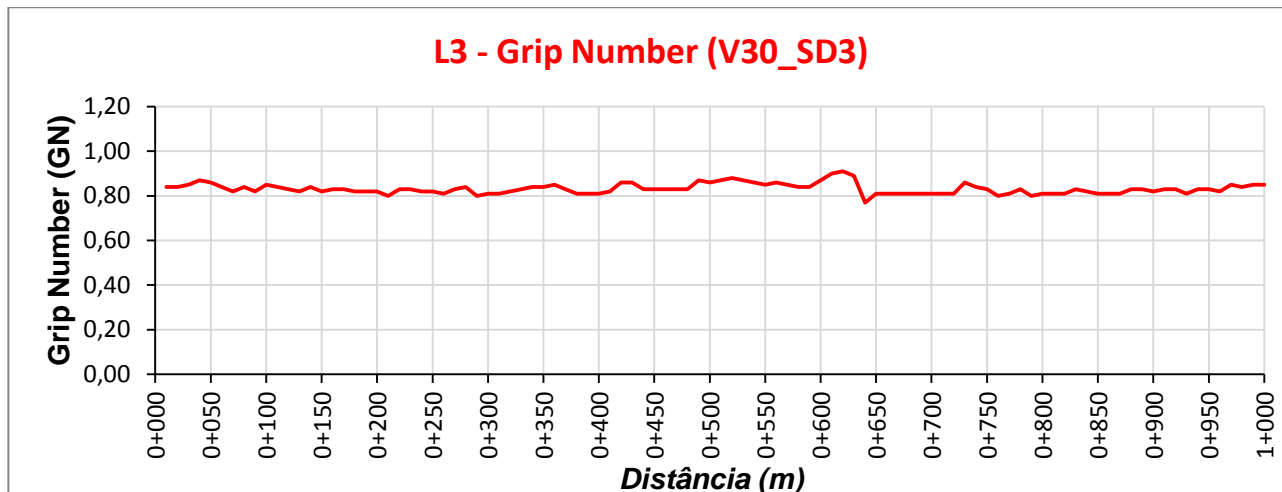
VELOCIDADE 30 km/h



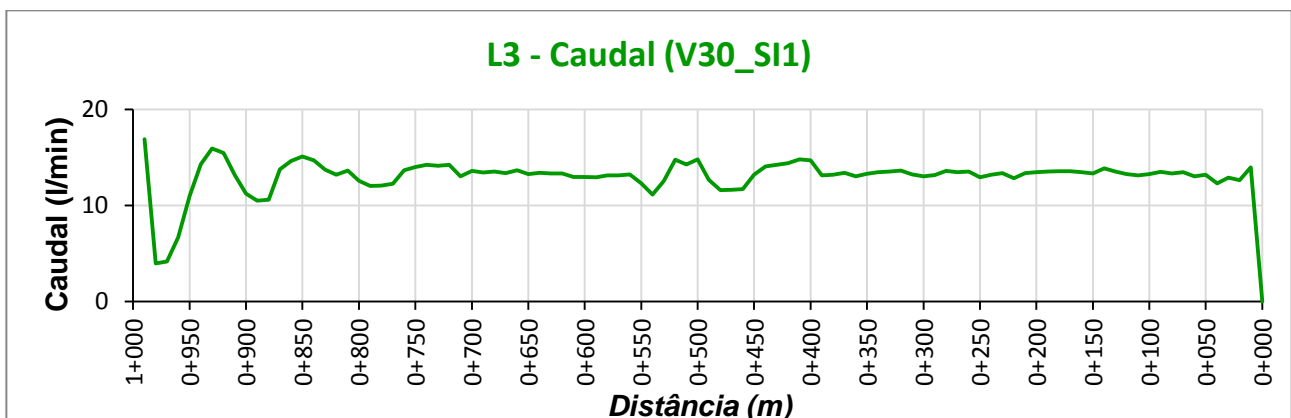
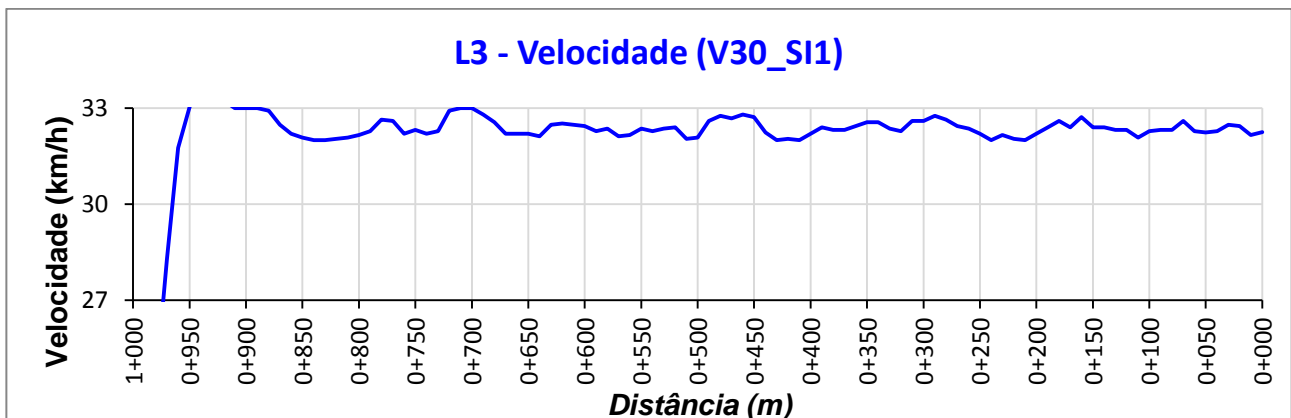
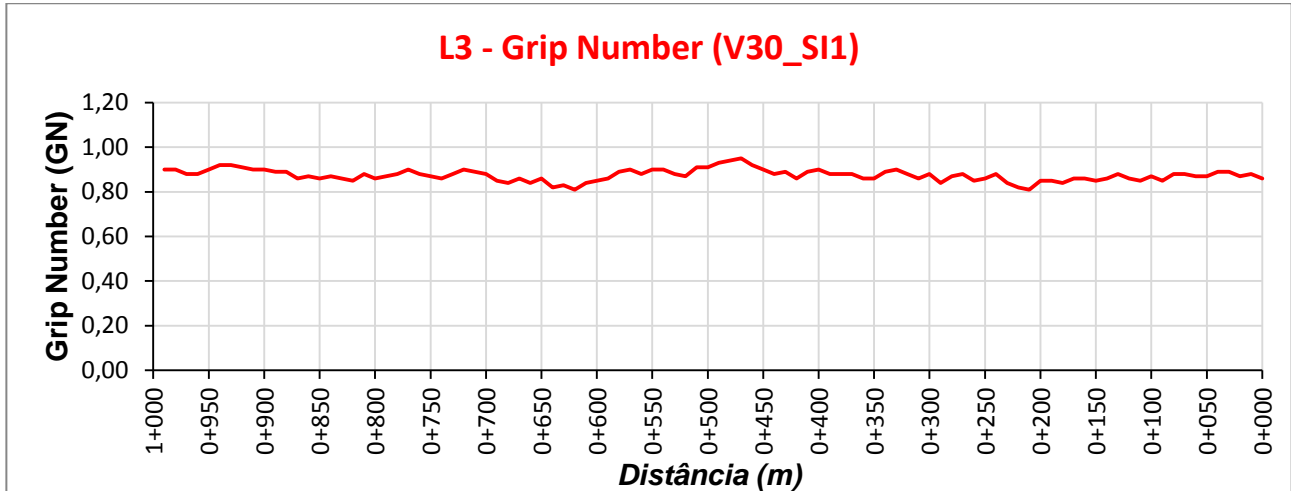
GRÁFICOS AI.50 – LABORATÓRIO 3 – V30_SD1



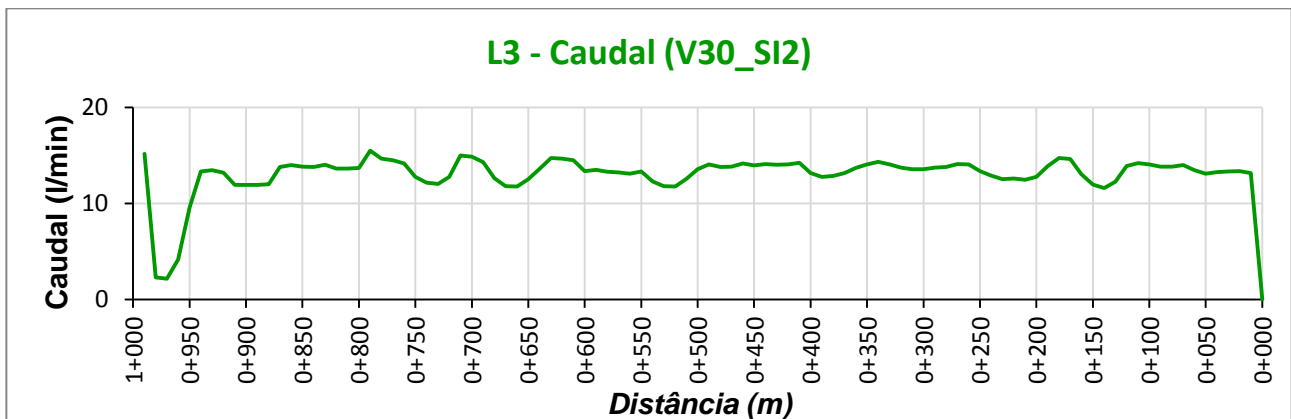
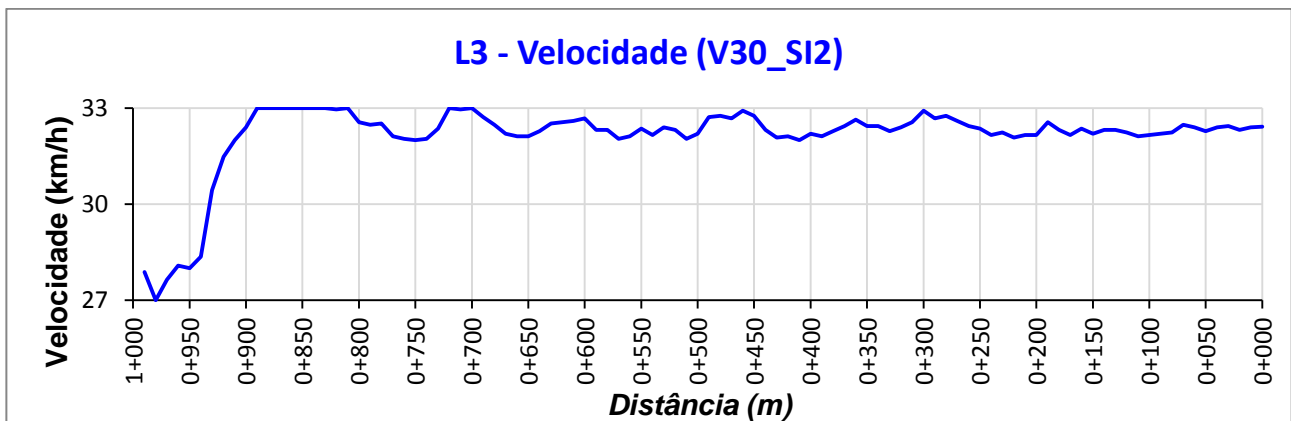
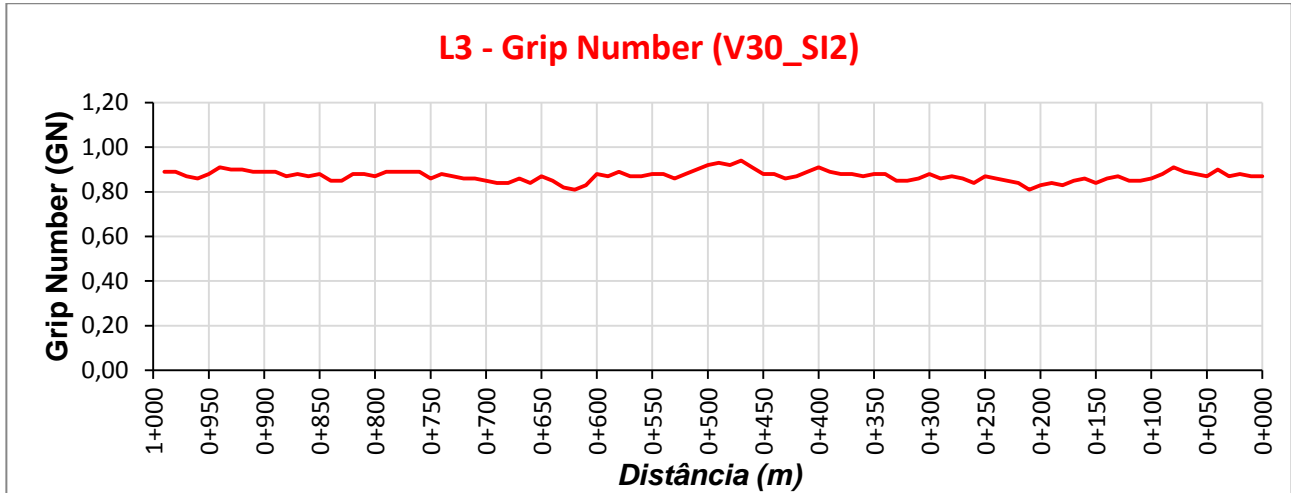
GRÁFICOS AI.51 – LABORATÓRIO 3 – V30_SD2



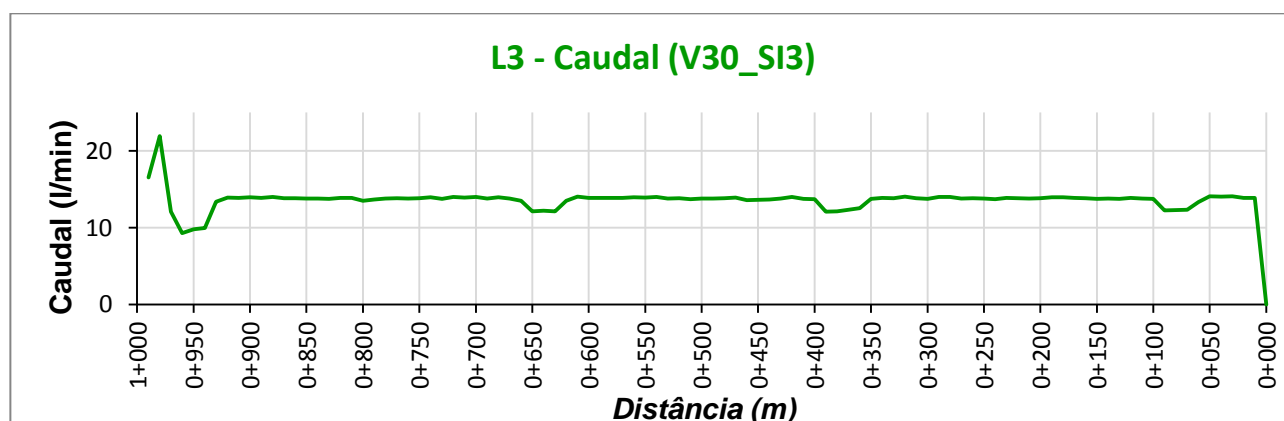
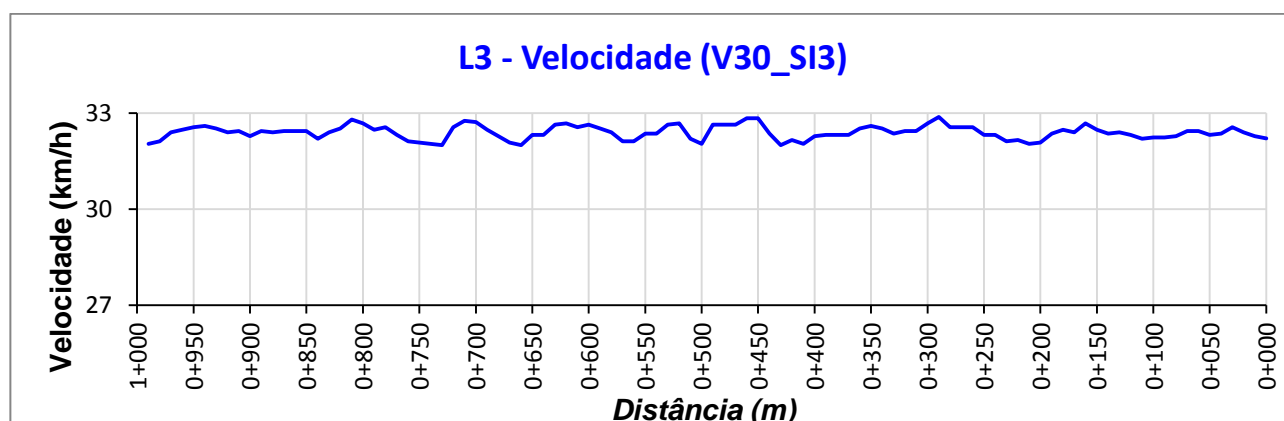
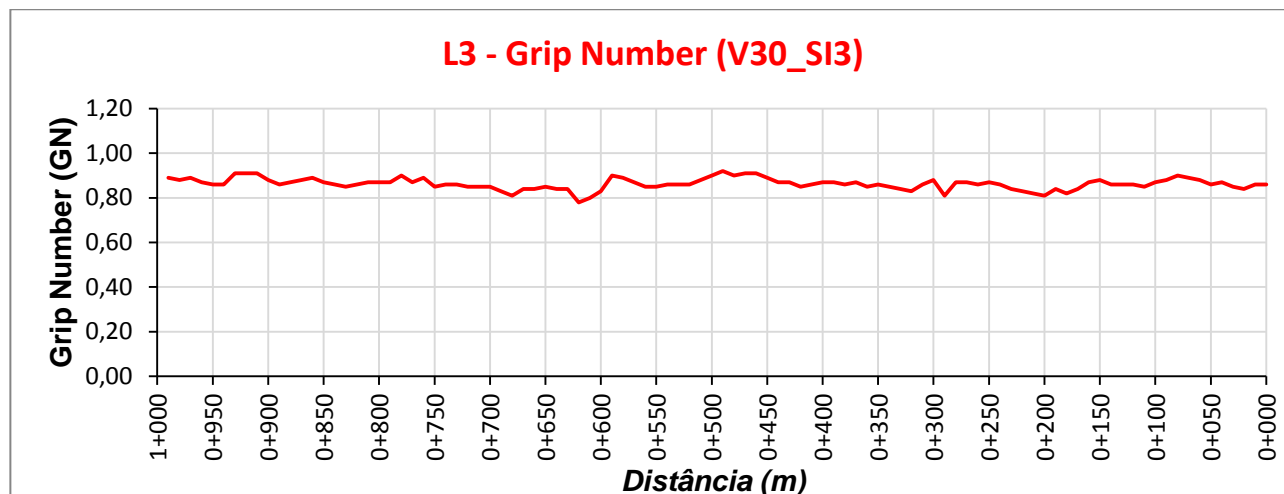
GRÁFICOS AI.52 – LABORATÓRIO 3 – V30_SD3



GRÁFICOS A1.53 – LABORATÓRIO 3 – V30_SI1



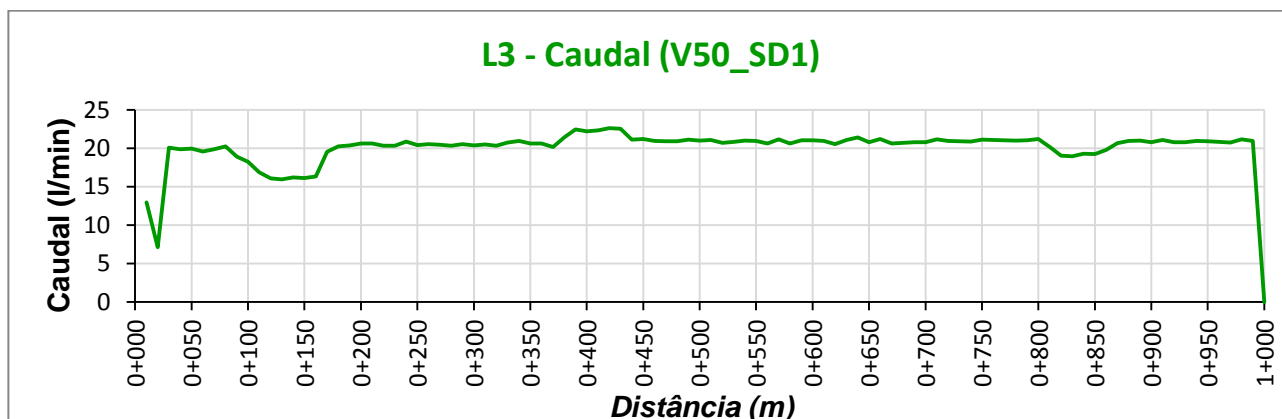
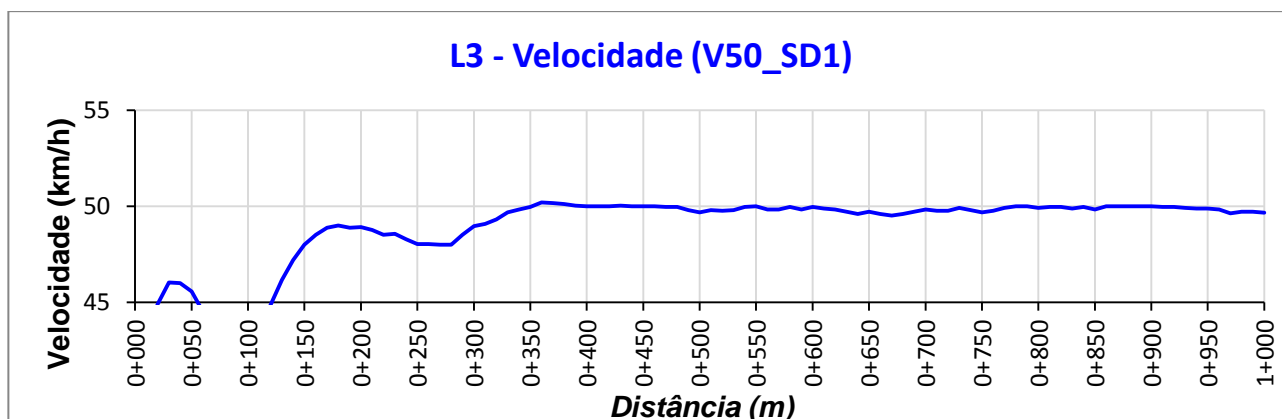
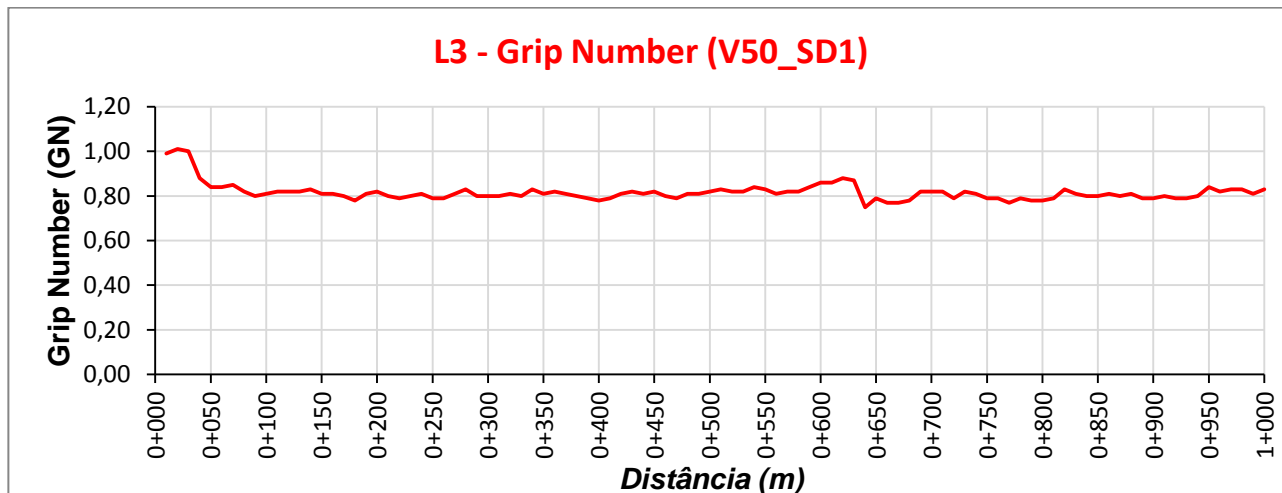
GRÁFICOS A1.54 – LABORATÓRIO 3 – V30_SI2



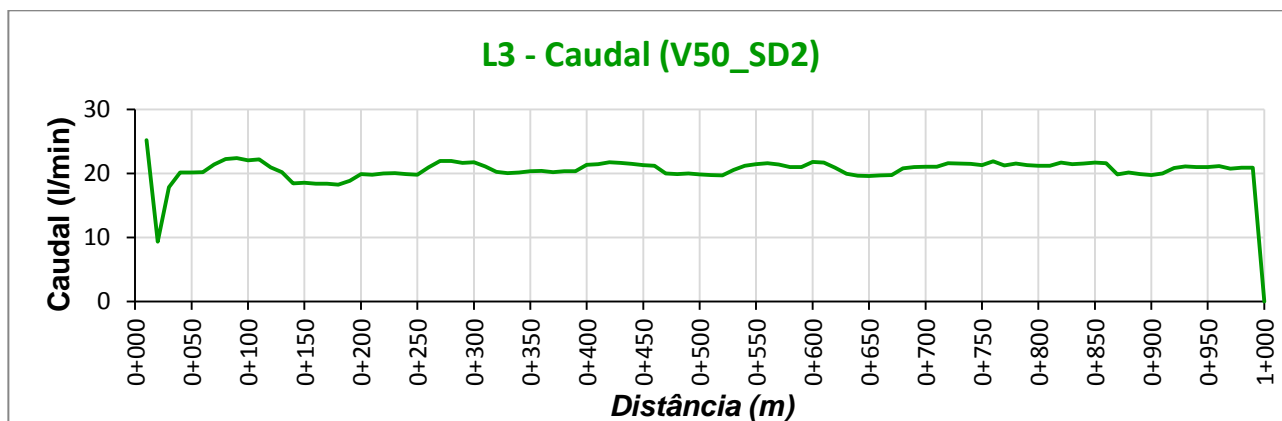
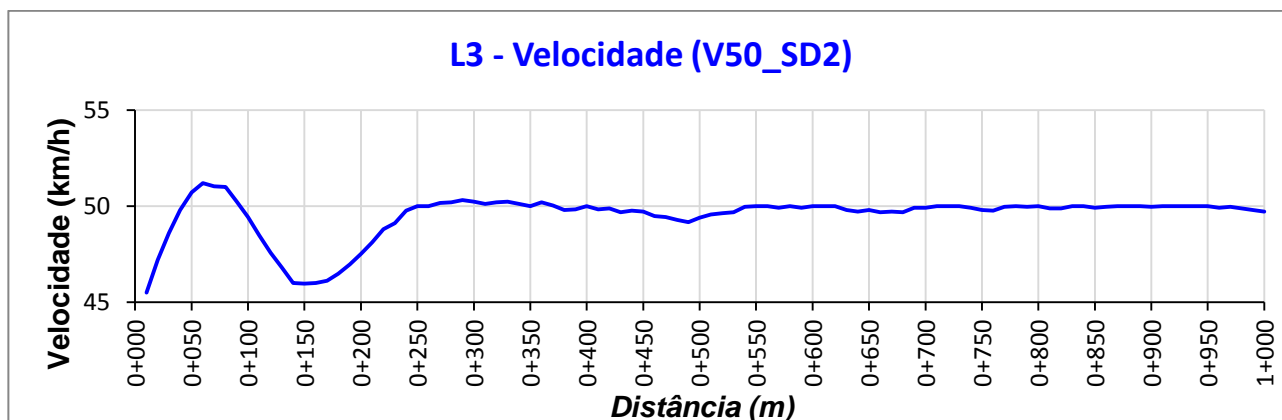
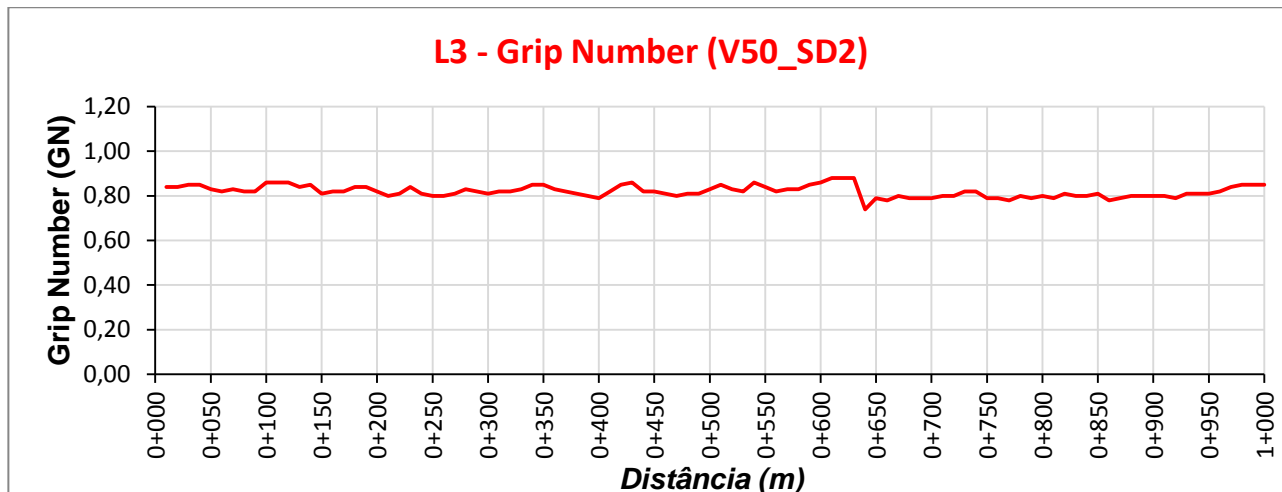
GRÁFICOS A1.55 – LABORATÓRIO 3 – V30_SI3



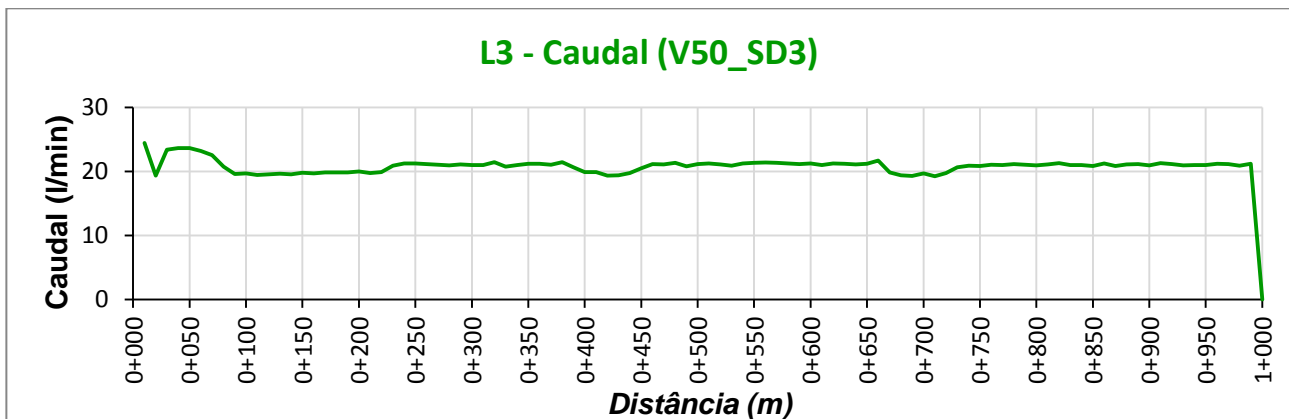
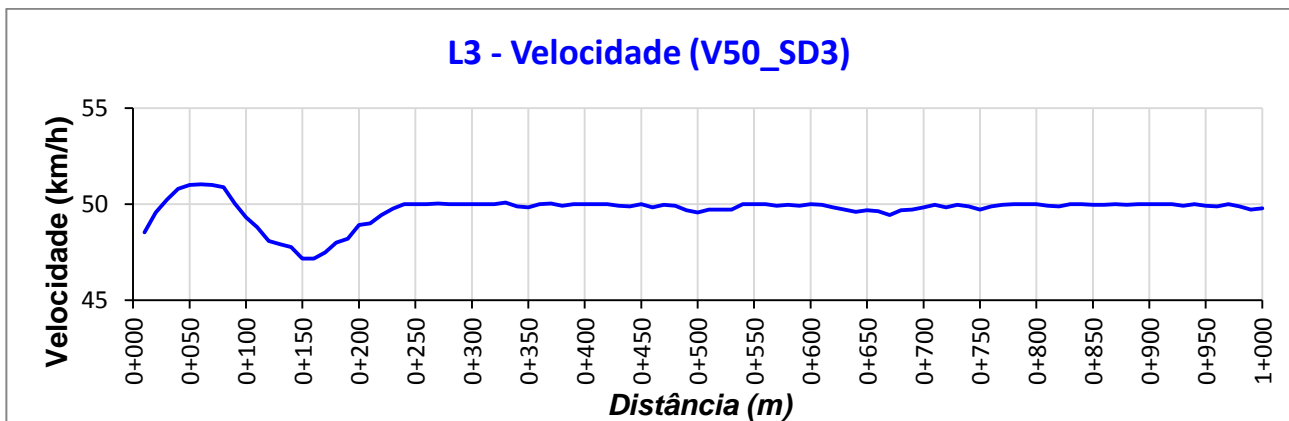
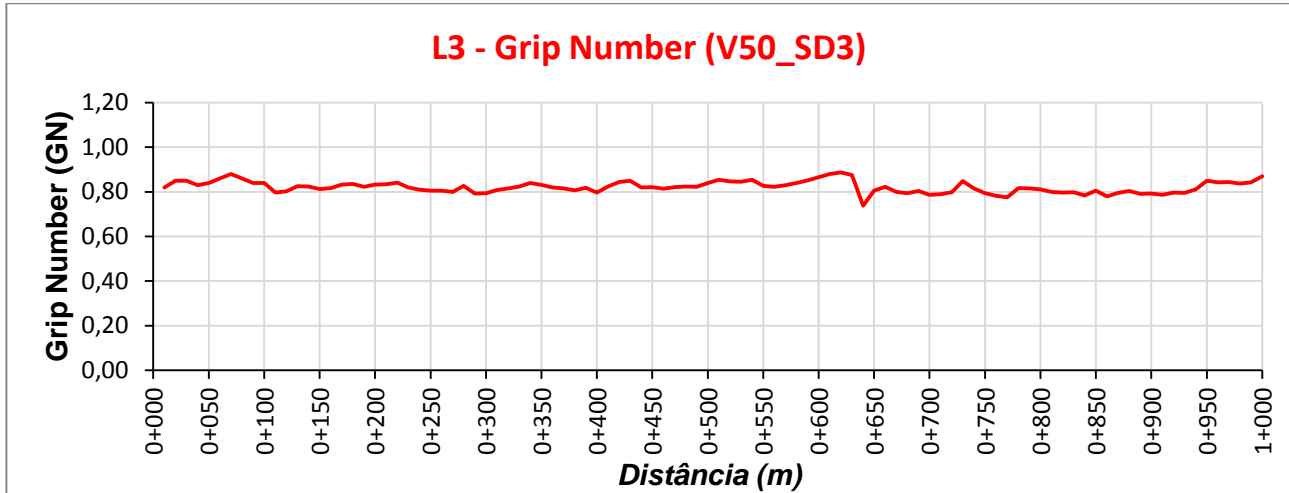
VELOCIDADE 50 KM/H



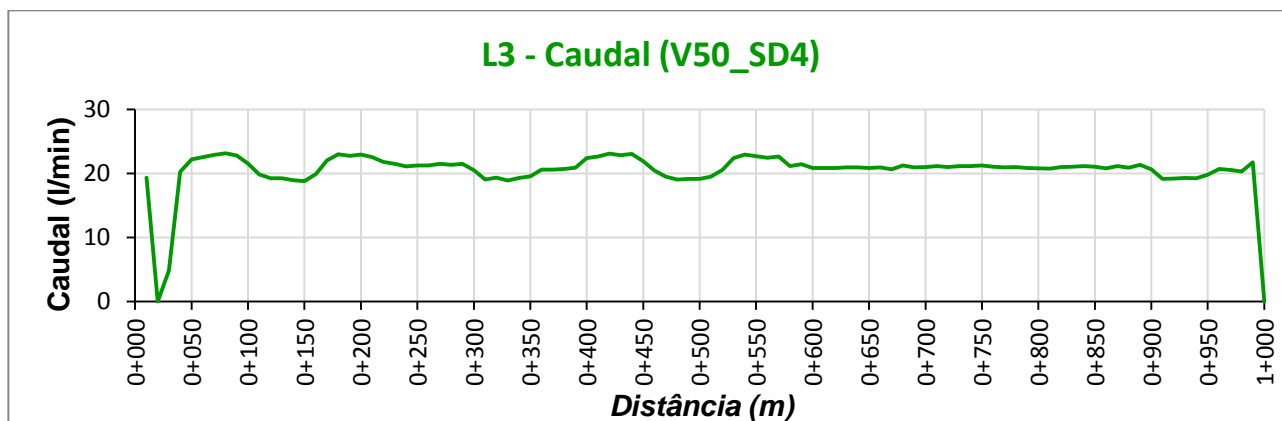
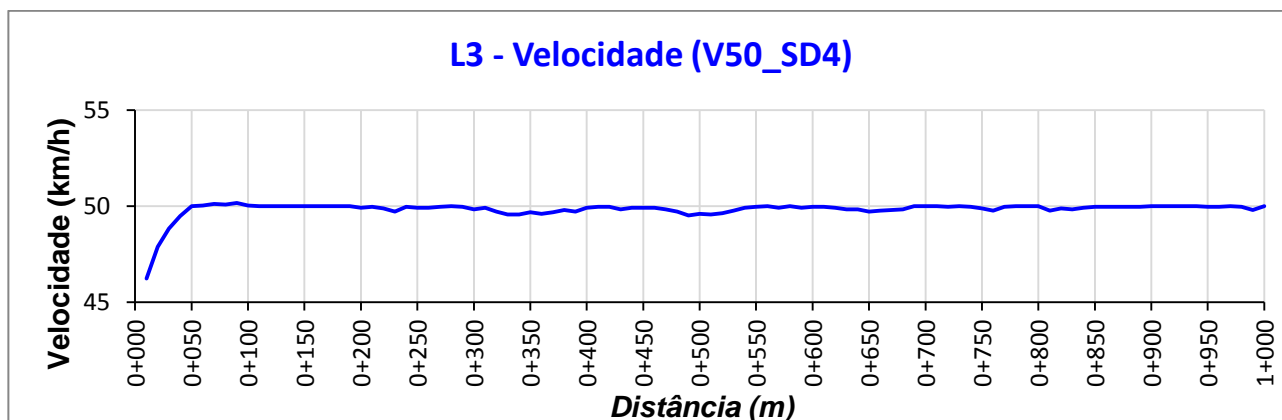
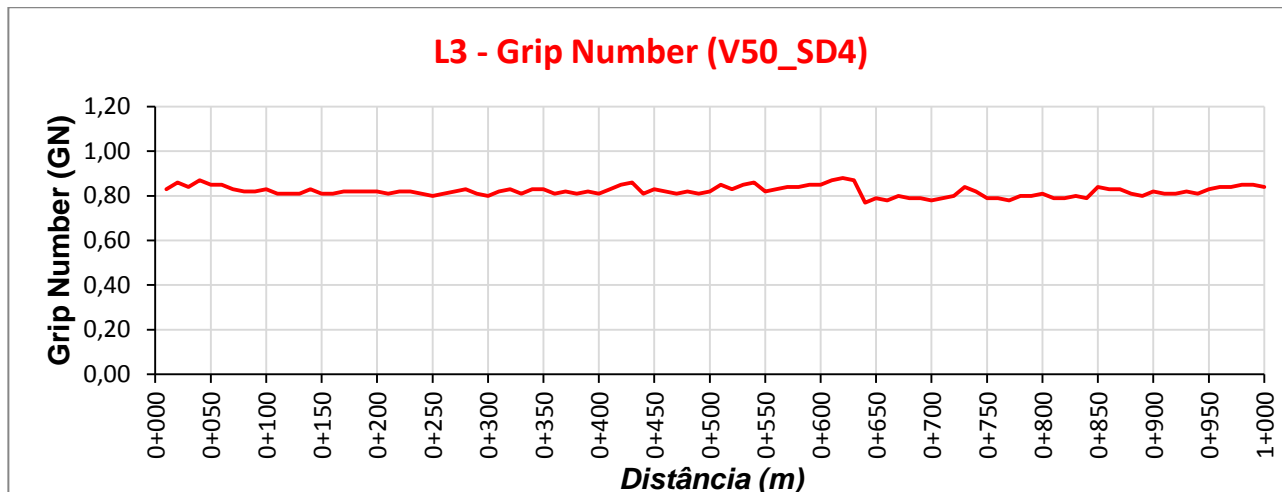
GRÁFICOS AI.56 – LABORATÓRIO 3 – V50_SD1



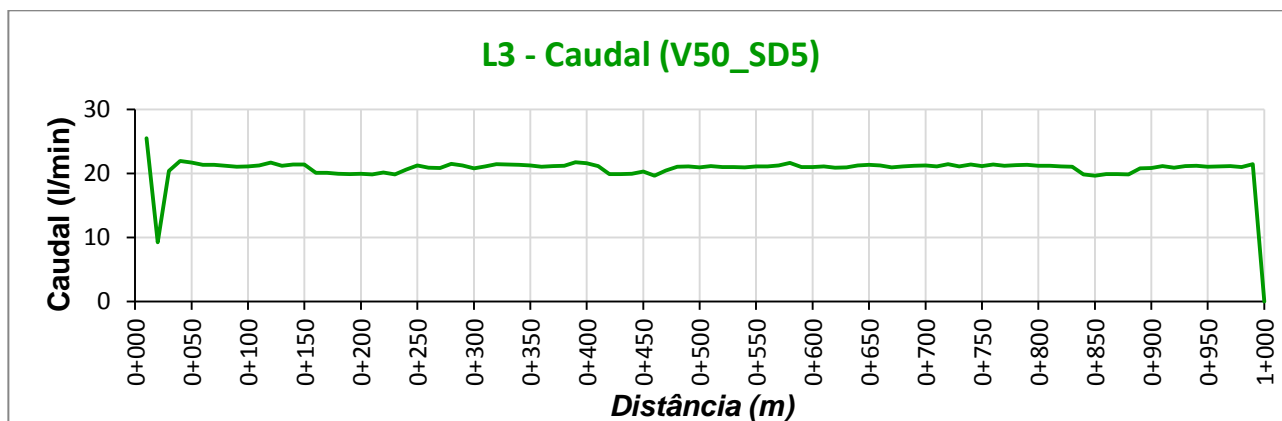
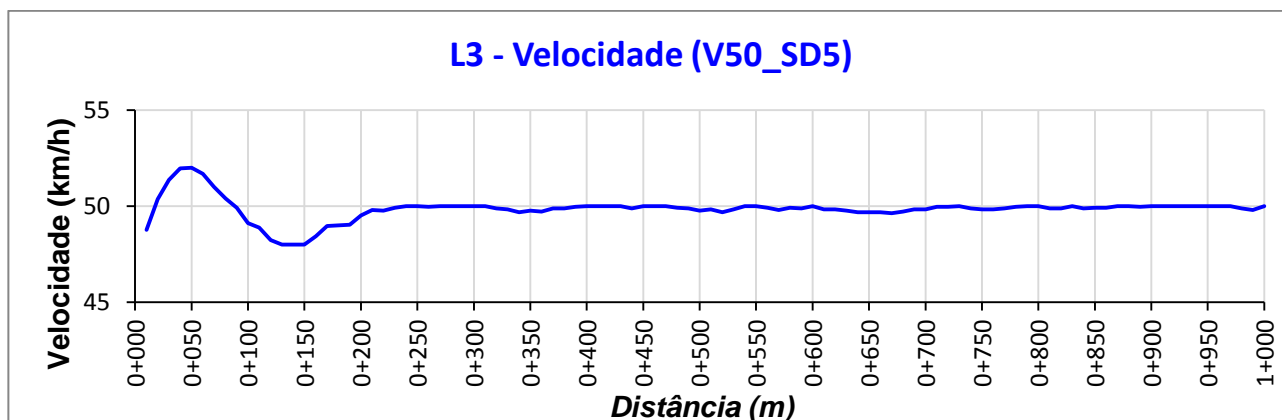
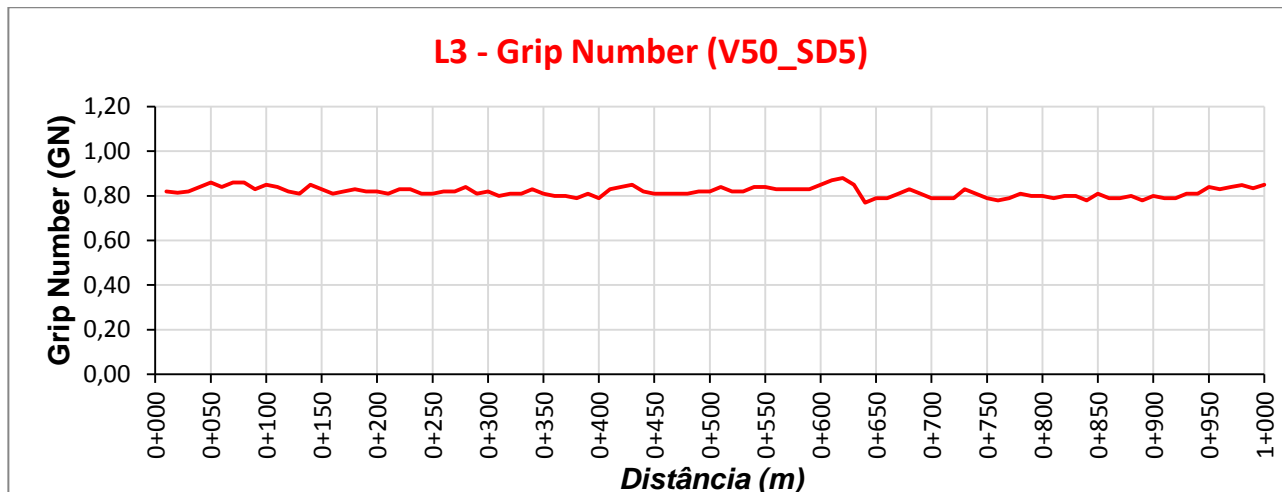
GRÁFICOS AI.57 – LABORATÓRIO 3 – V50_SD2



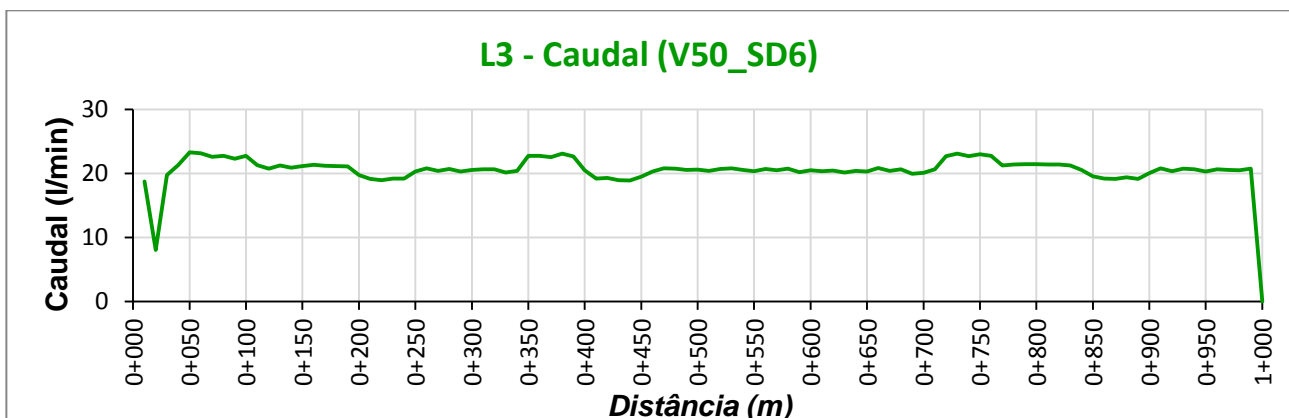
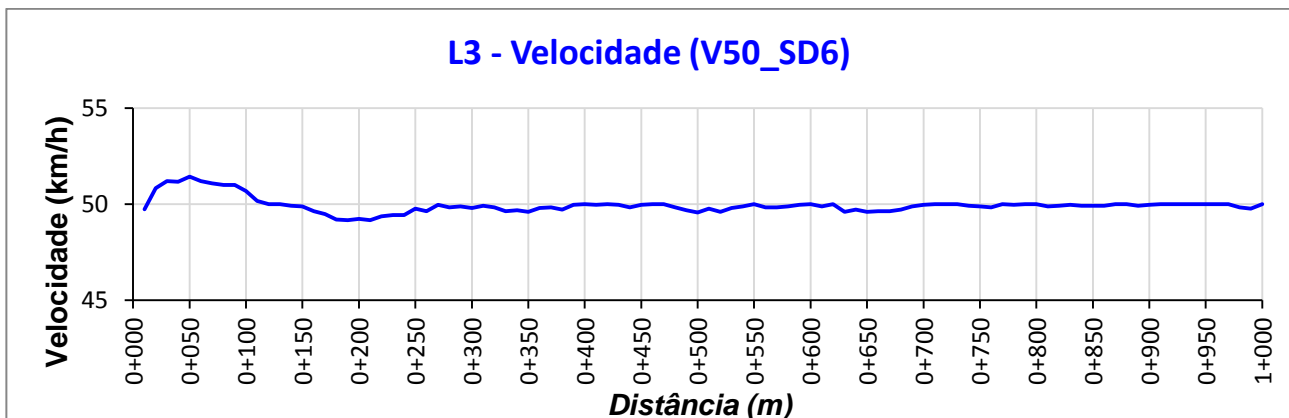
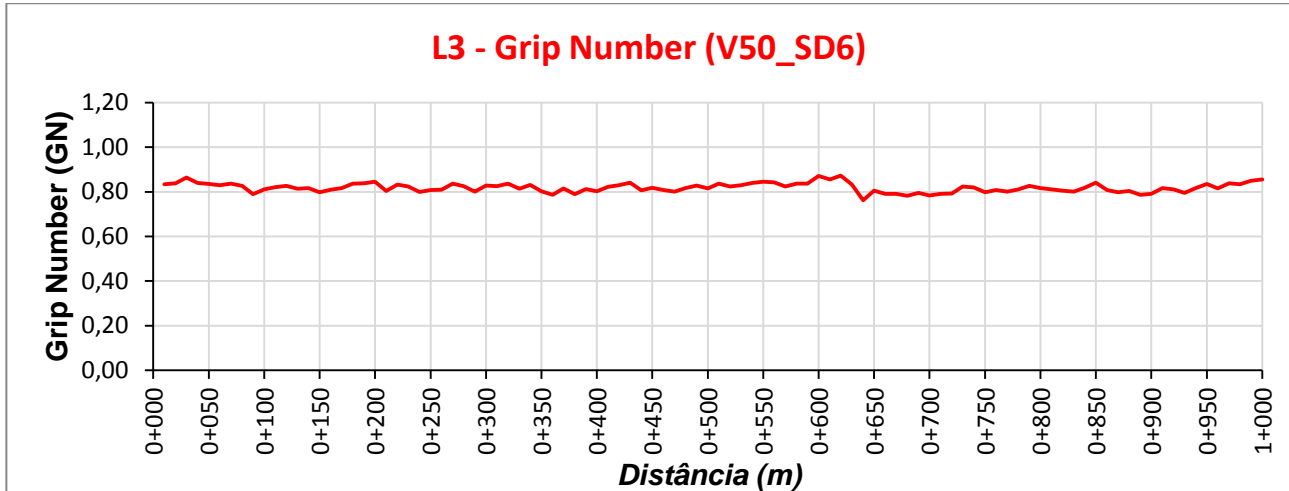
GRÁFICOS AI.58 – LABORATÓRIO 3 – V50_SD3



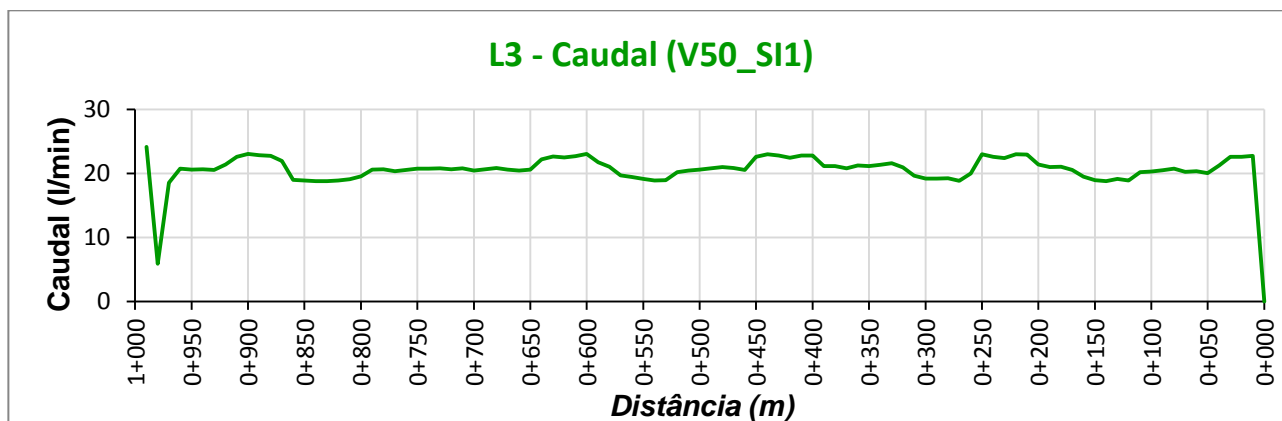
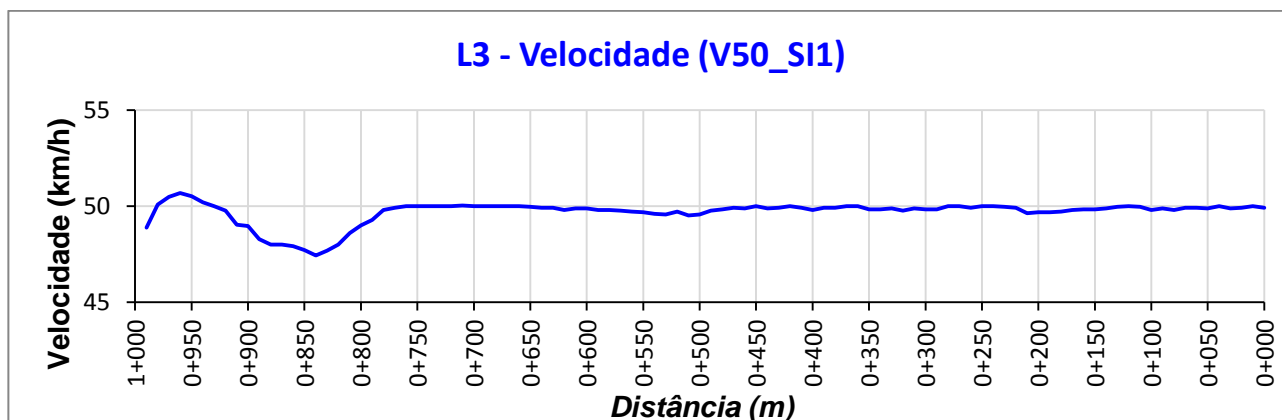
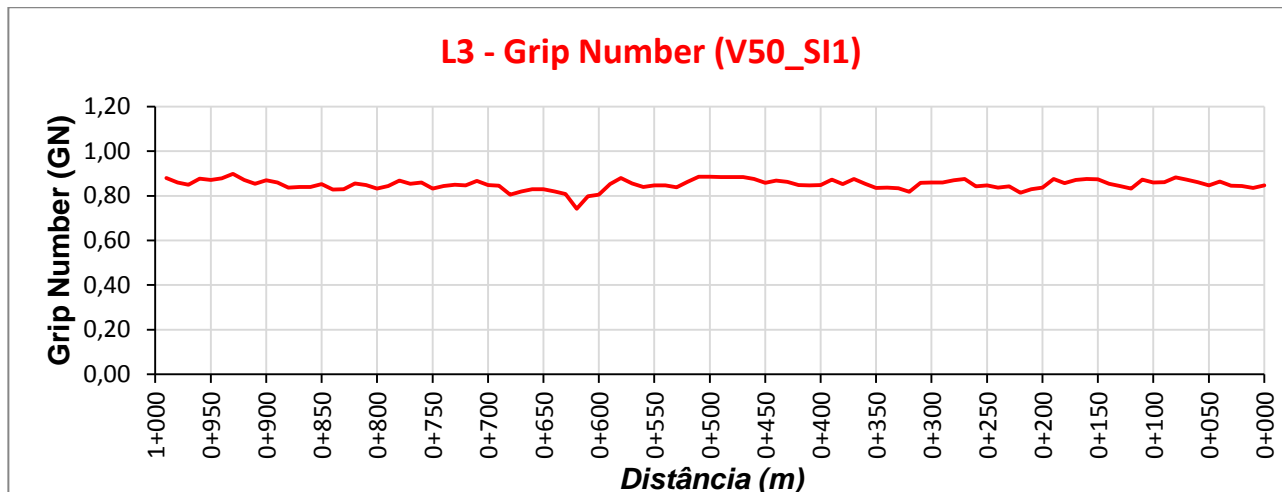
GRÁFICOS AI.59 – LABORATÓRIO 3 – V50_SD4



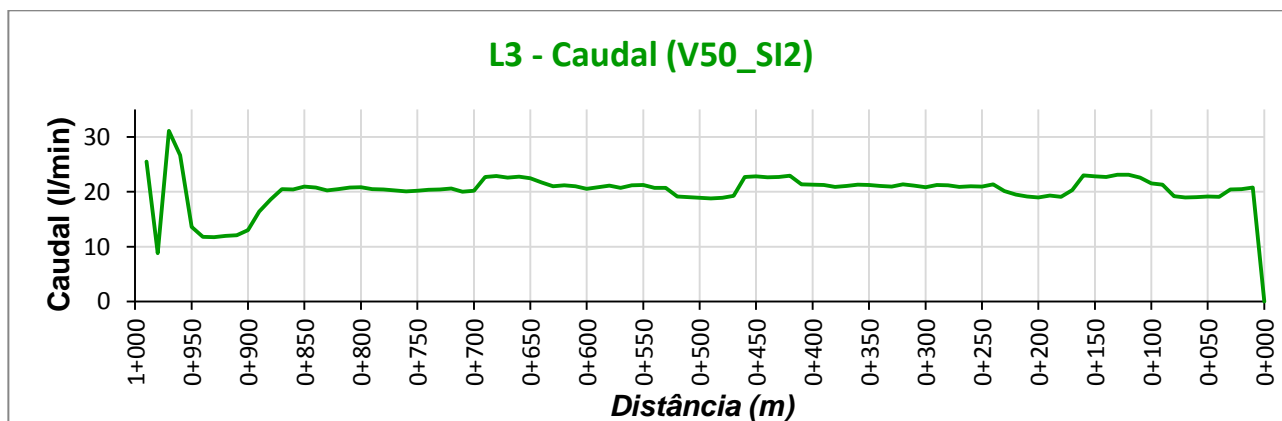
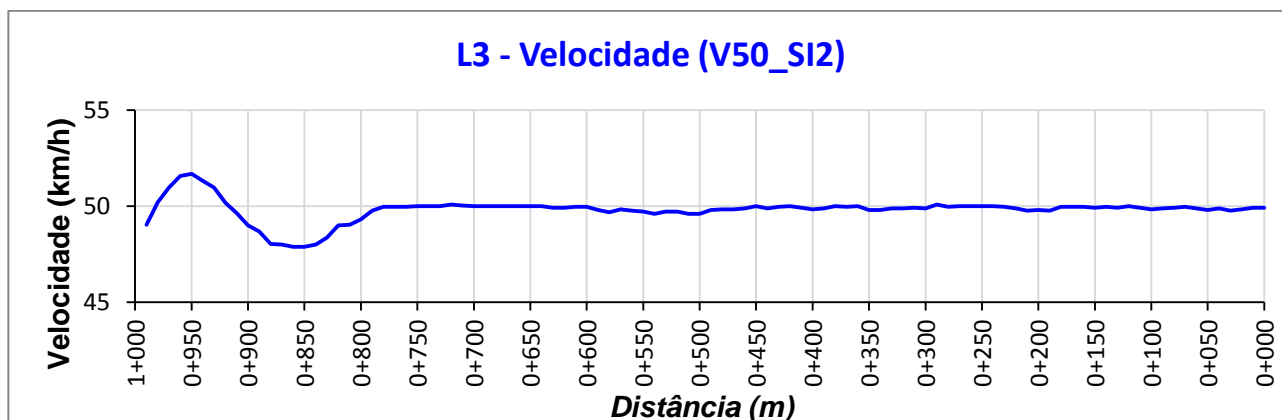
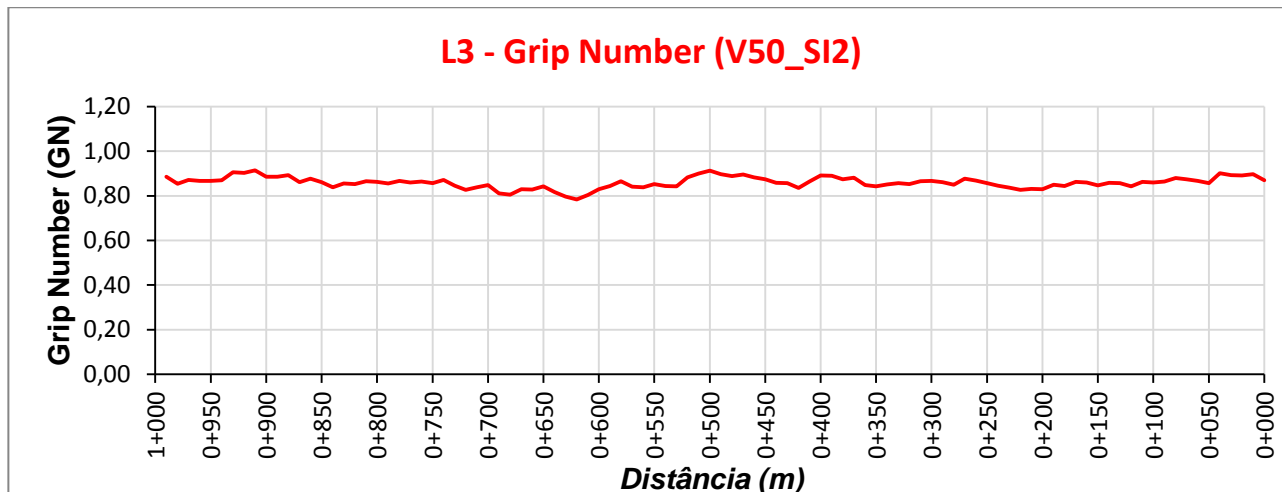
GRÁFICOS AI.60 – LABORATÓRIO 3 – V50_SD5



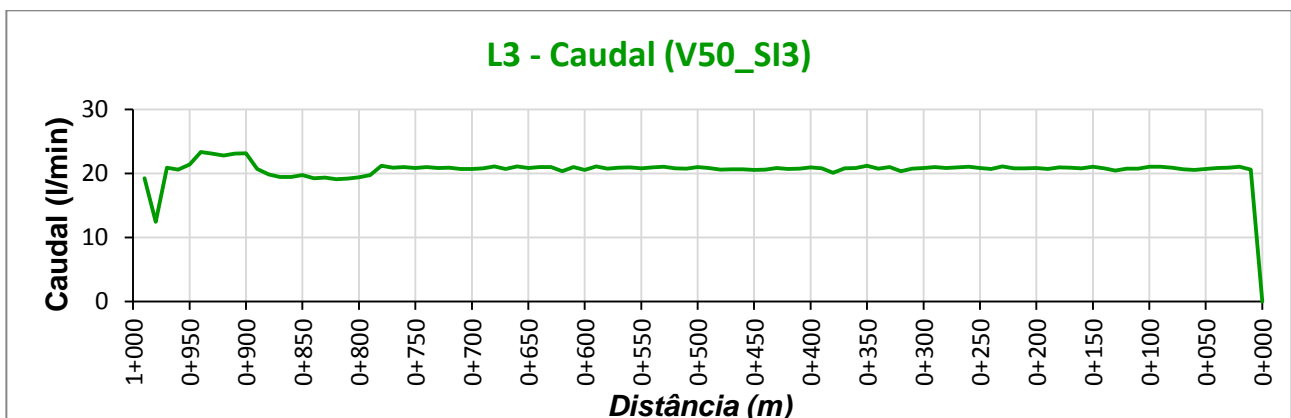
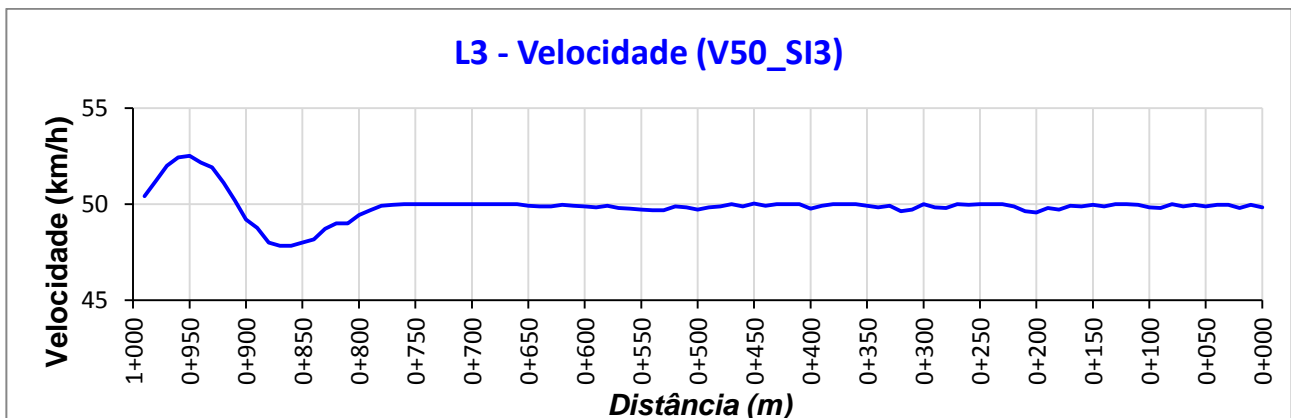
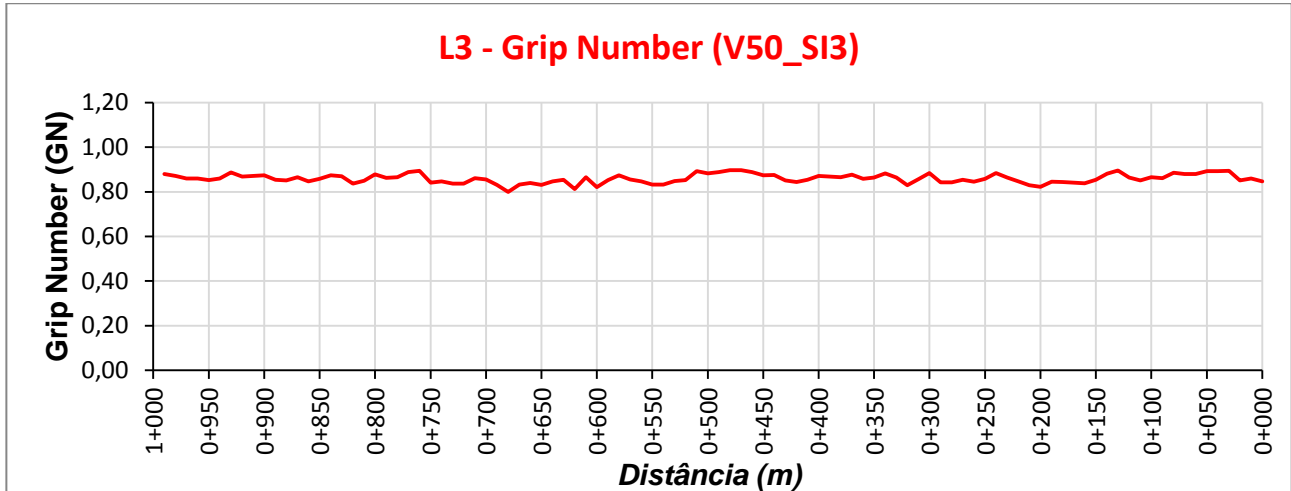
GRÁFICOS AI.61 – LABORATÓRIO 3 – V50_SD6



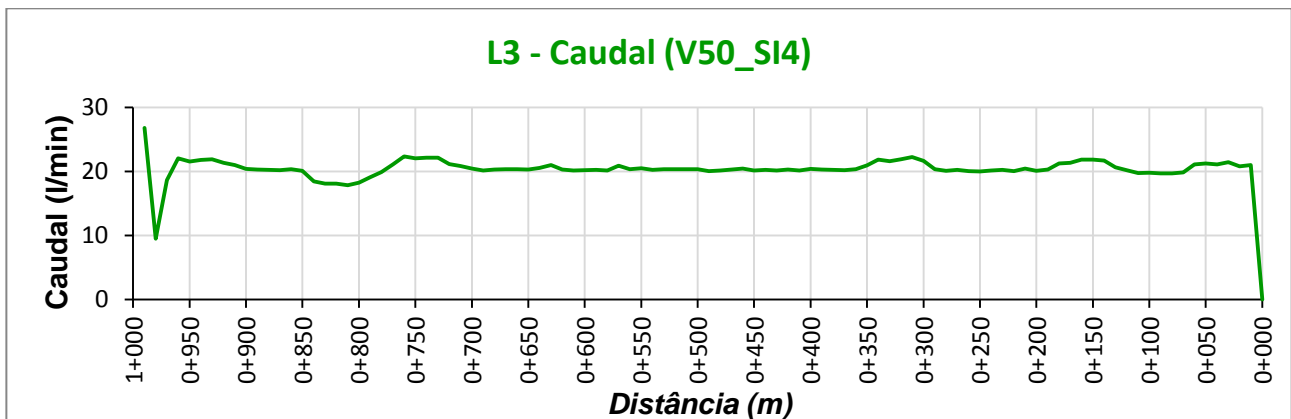
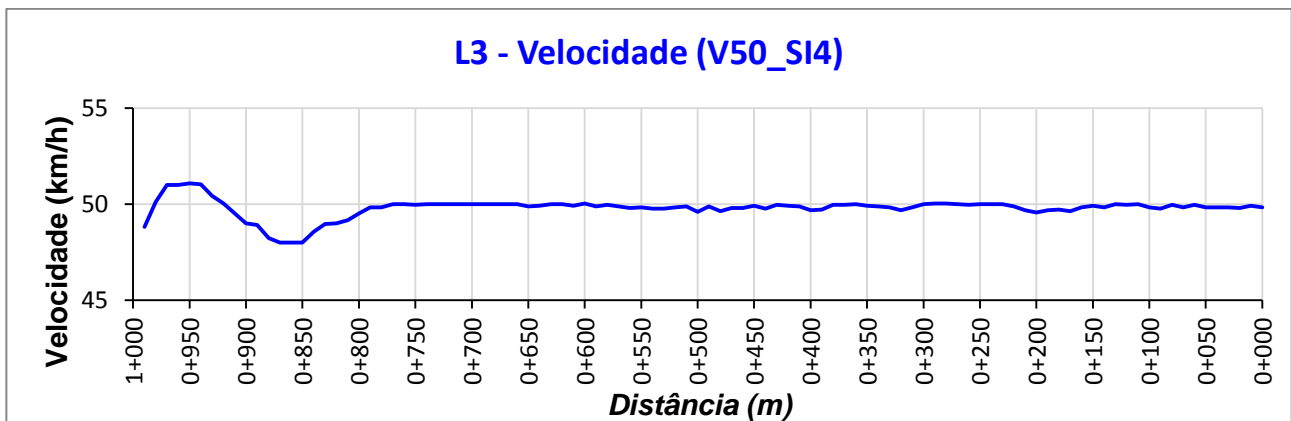
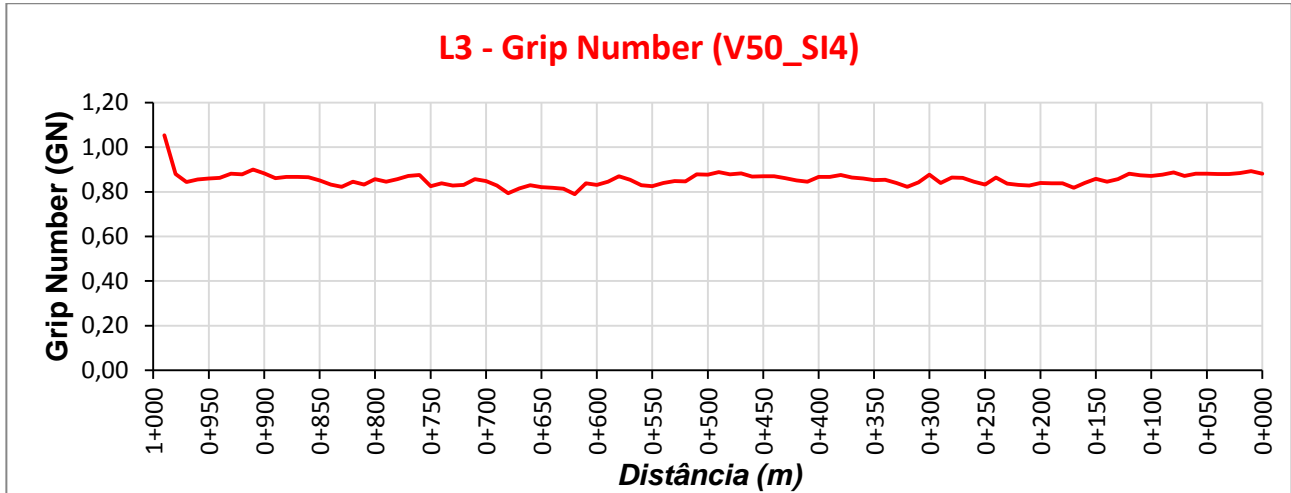
GRÁFICOS A1.62 – LABORATÓRIO 3 – V50_SI1



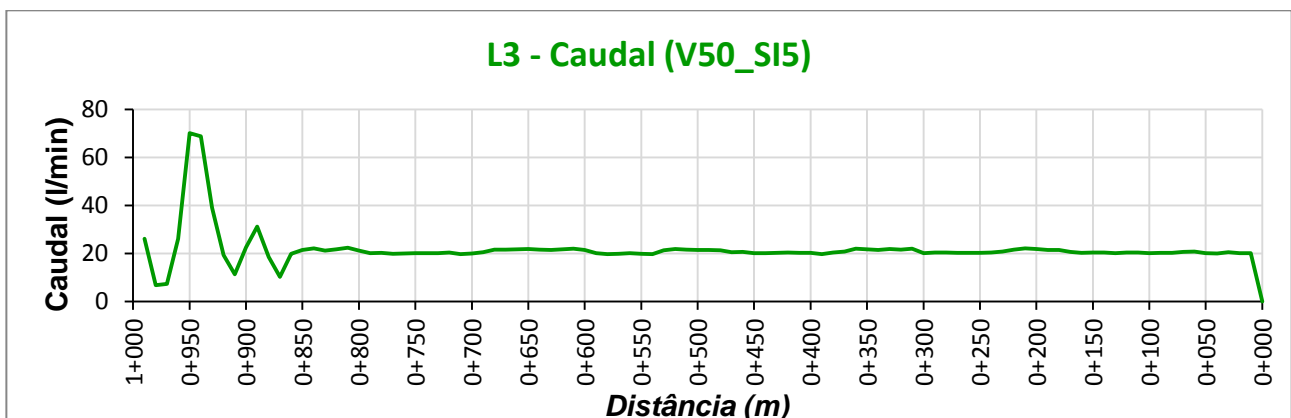
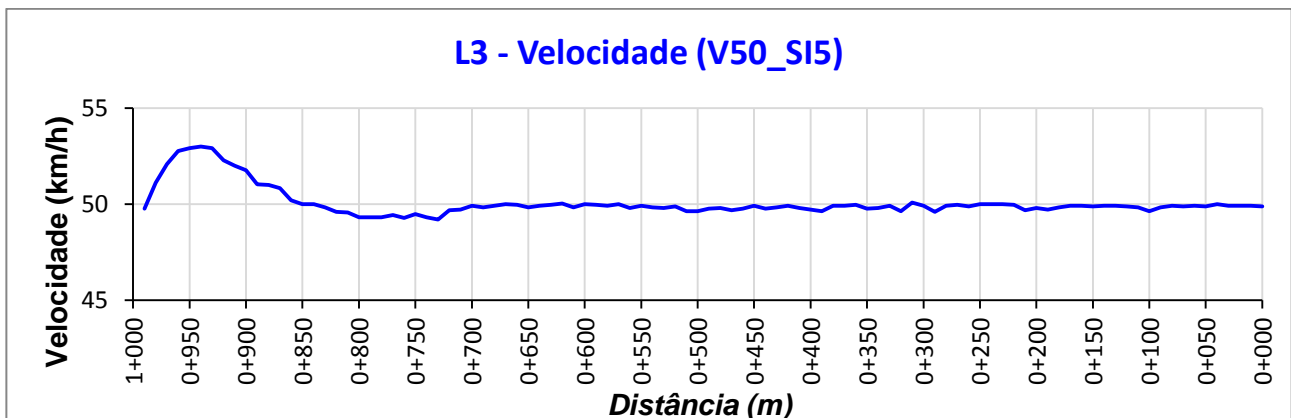
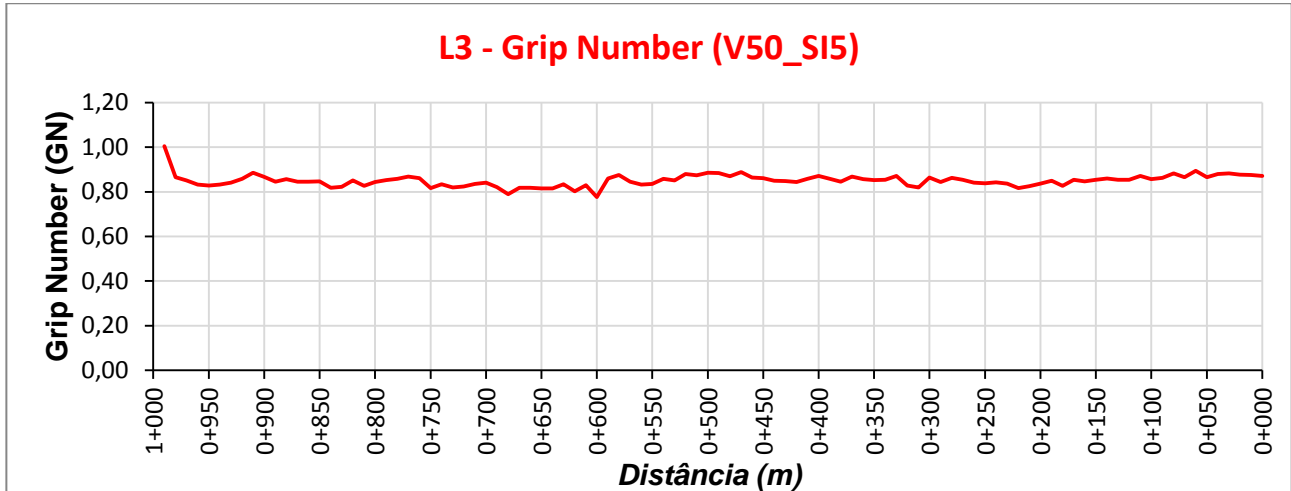
GRÁFICOS A1.63 – LABORATÓRIO 3 – V50_SI2



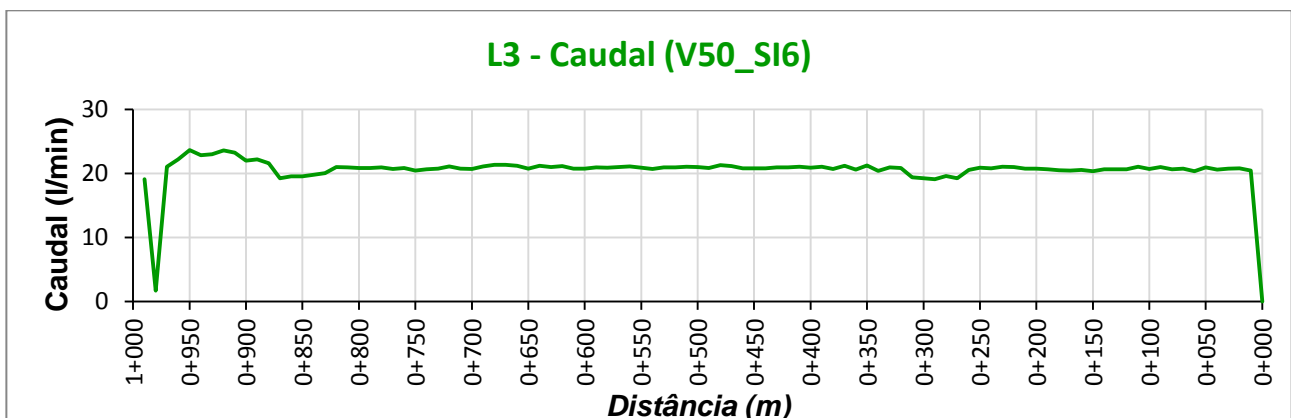
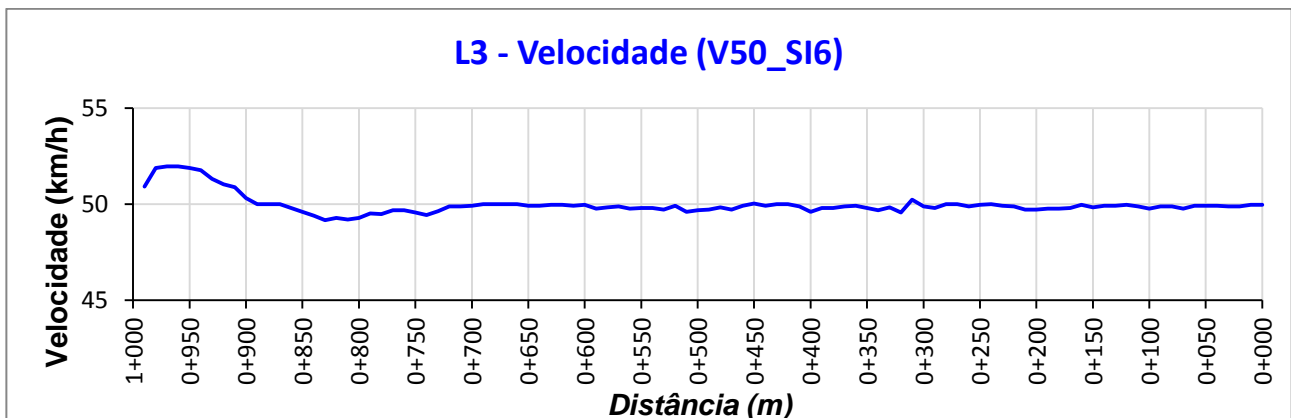
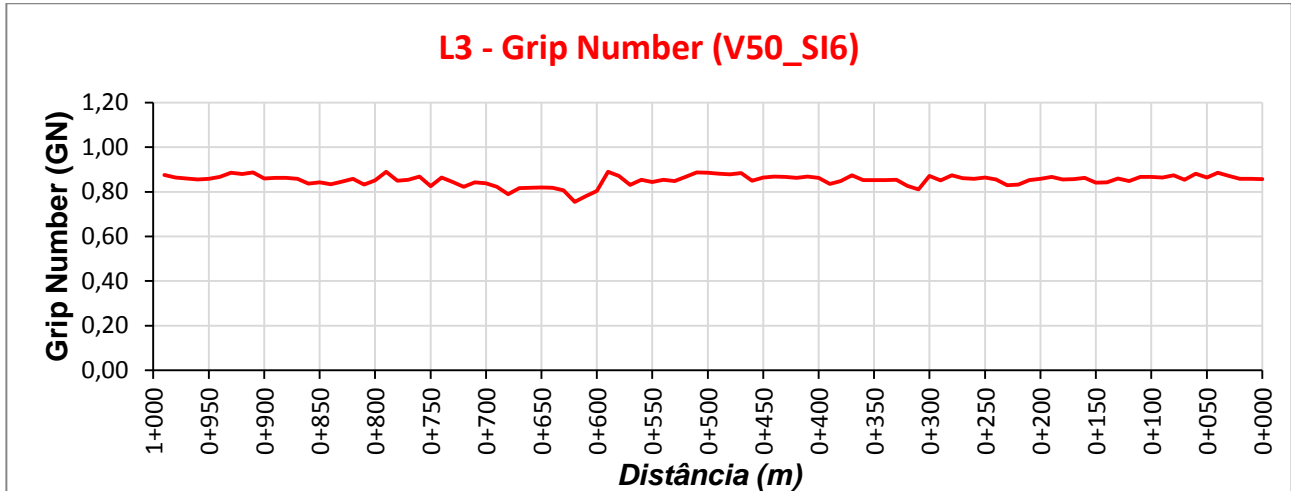
GRÁFICOS A1.64 – LABORATÓRIO 3 – V50_SI3



GRÁFICOS A1.65 – LABORATÓRIO 3 – V50_SI4



GRÁFICOS A1.66 – LABORATÓRIO 3 – V50_SI5

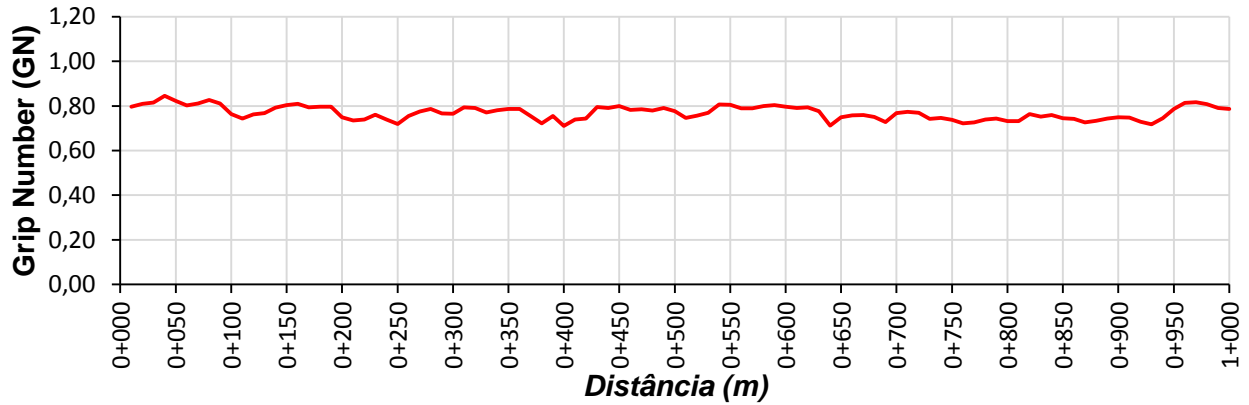


GRÁFICOS A1.67 – LABORATÓRIO 3 – V50_SI6

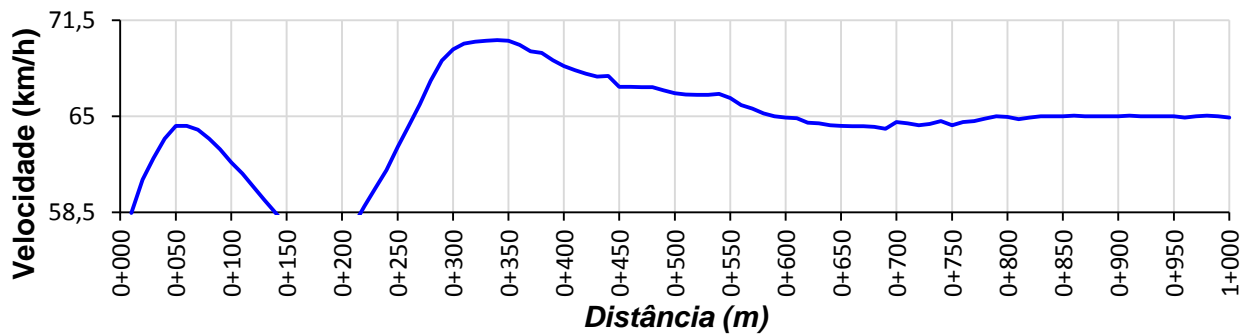


VELOCIDADE 65 KM/H

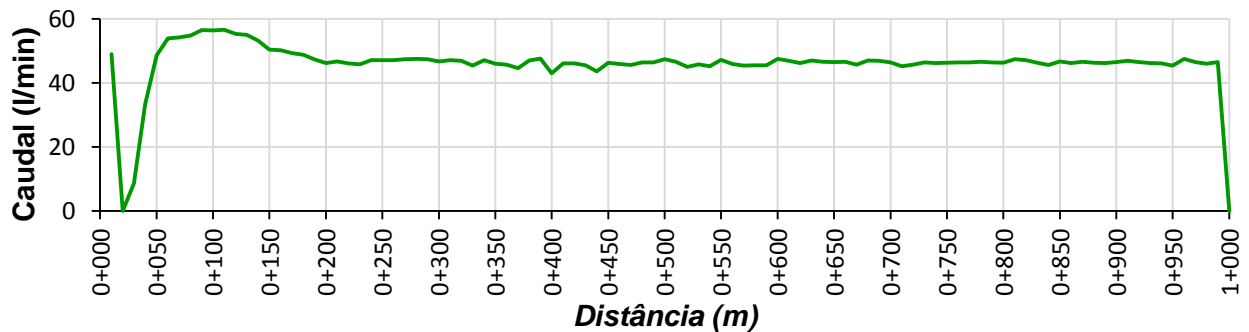
L3 - Grip Number (V65_SD1)



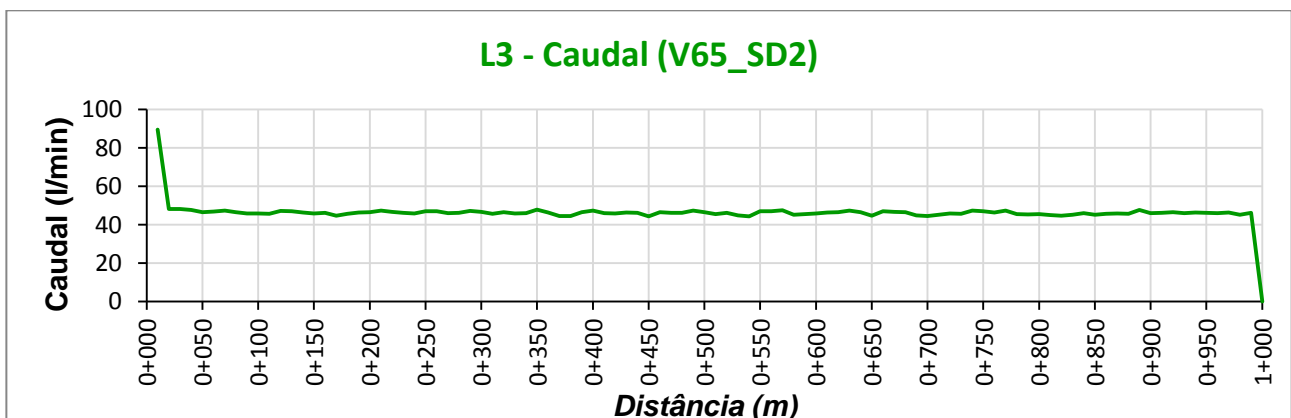
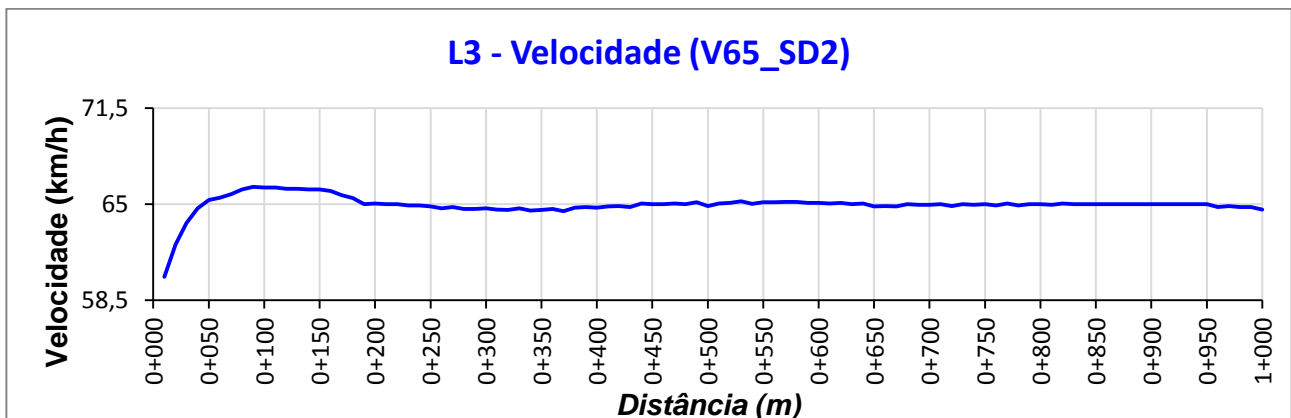
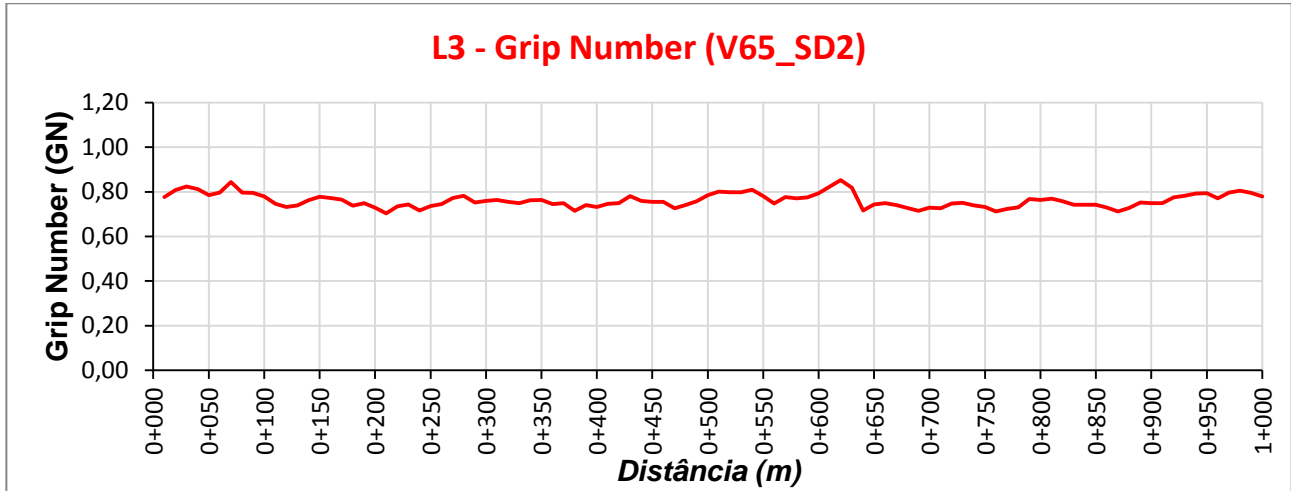
L3 - Velocidade (V65_SD1)



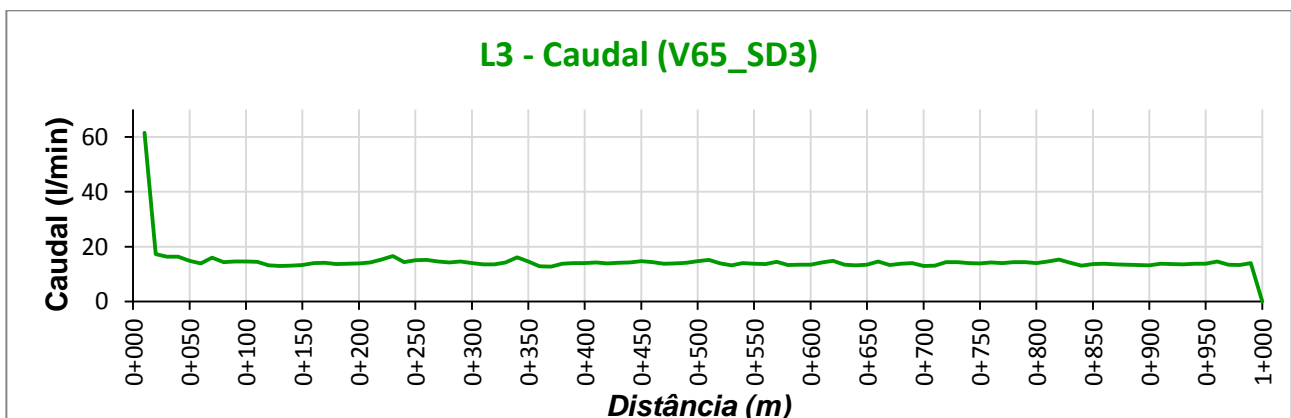
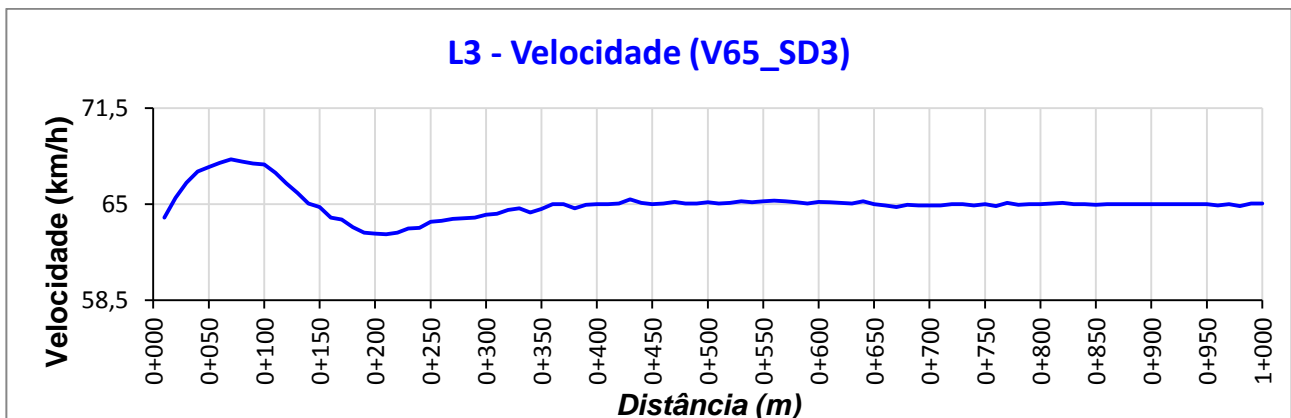
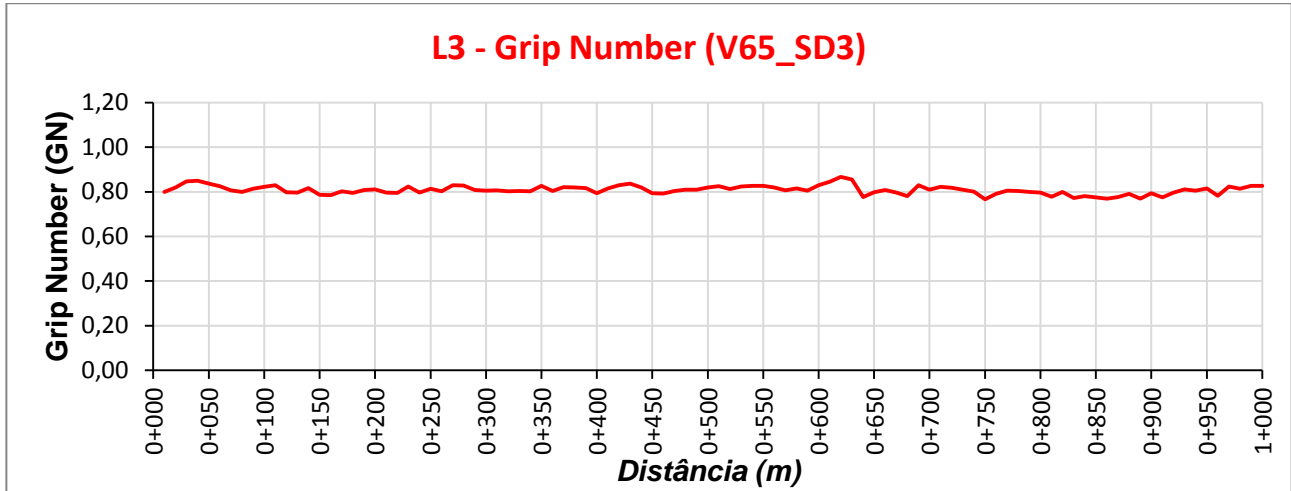
L3 - Caudal (V65_SD1)



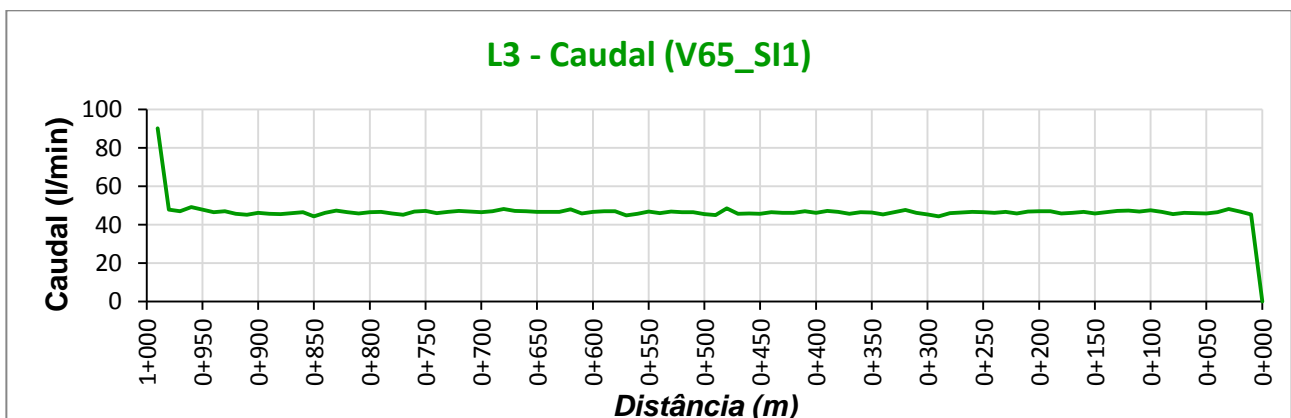
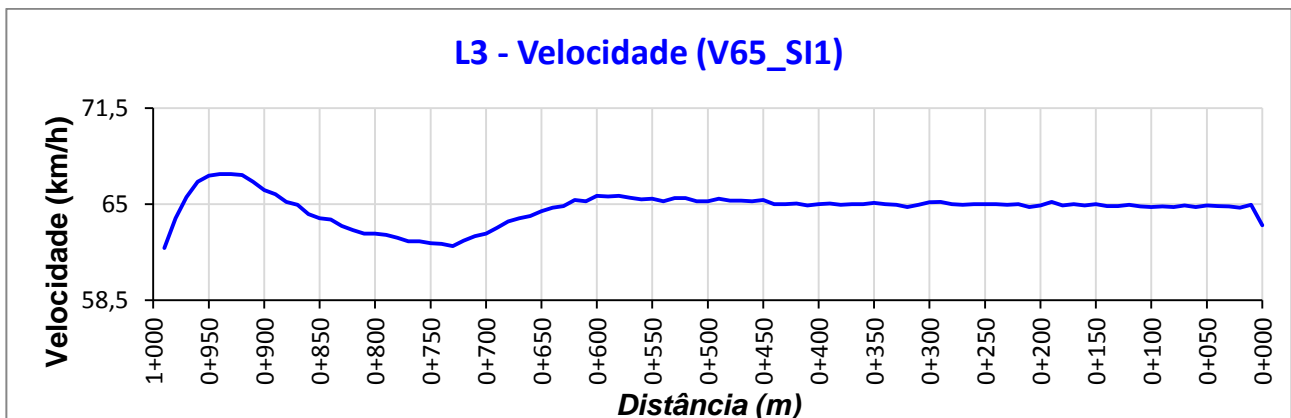
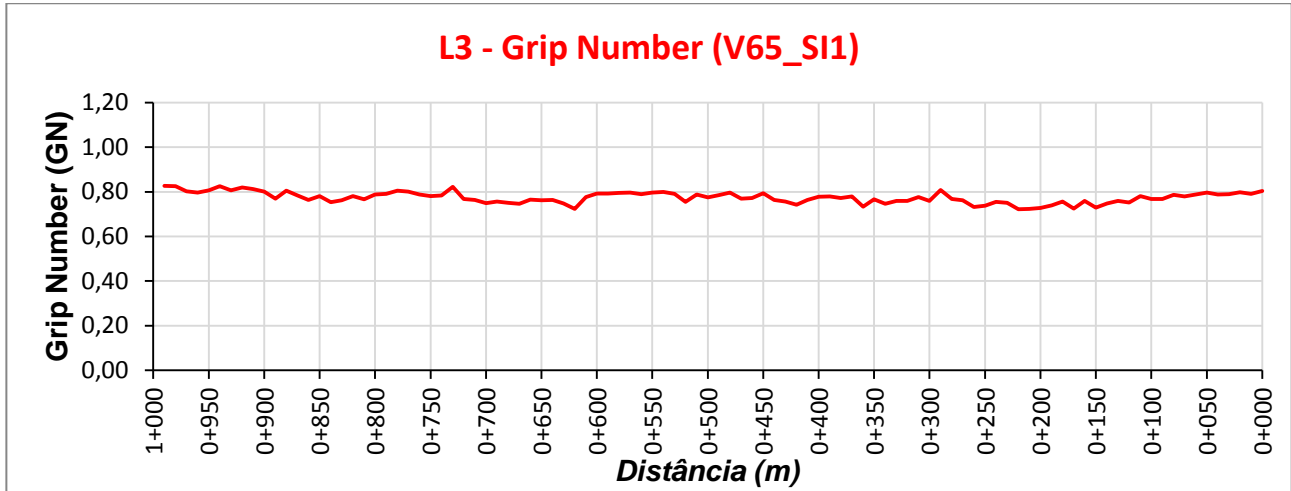
GRÁFICOS AI.68 – LABORATÓRIO 3 – V65_SD1



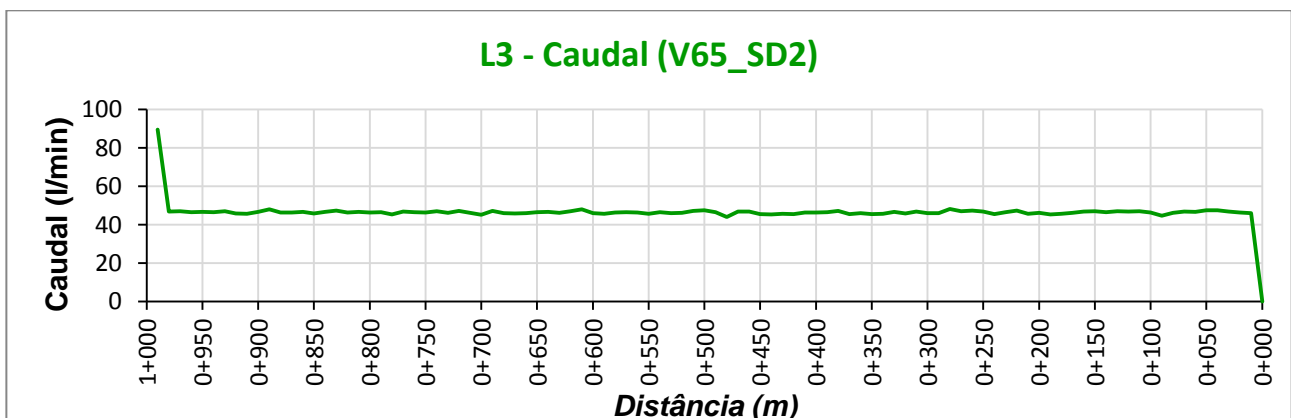
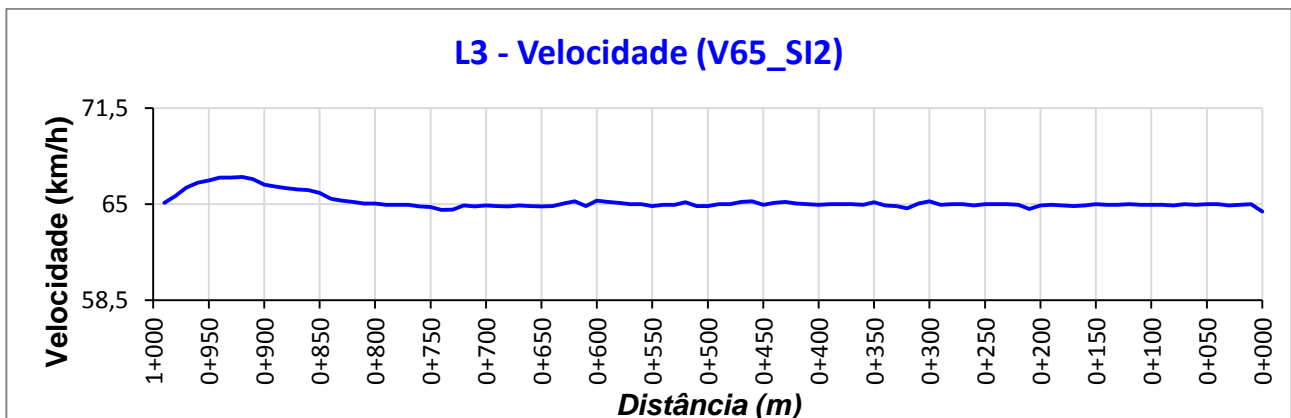
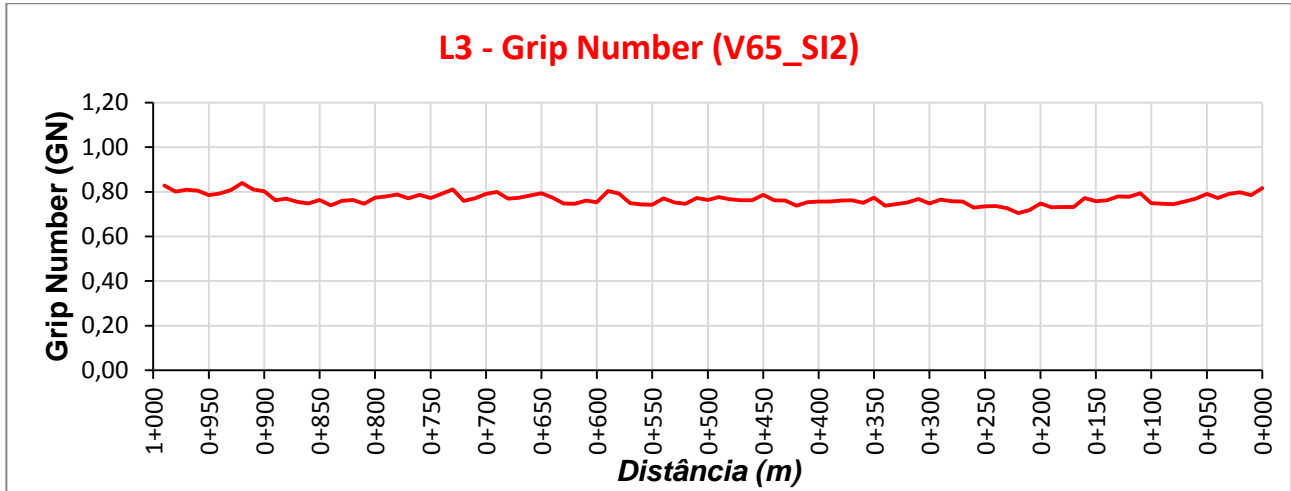
GRÁFICOS AI.69 – LABORATÓRIO 3 – V65_SD2



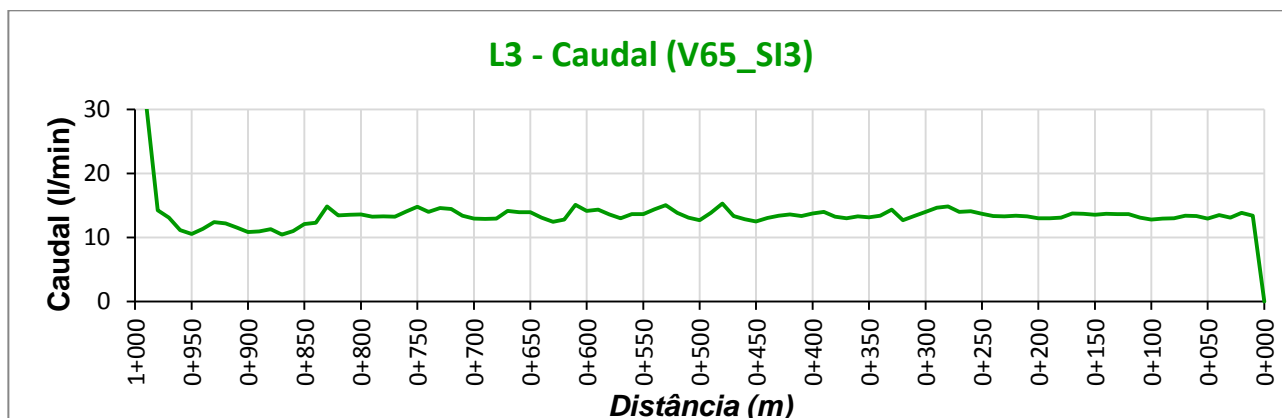
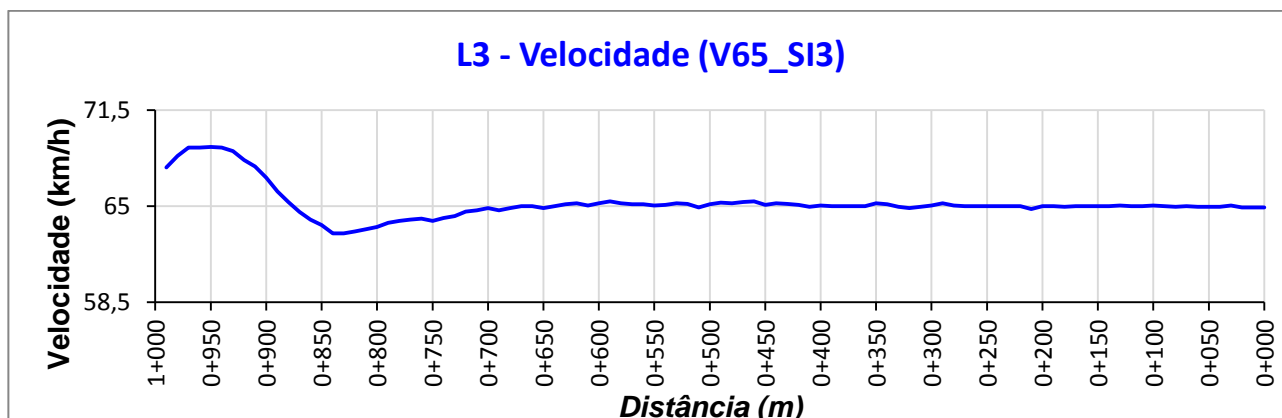
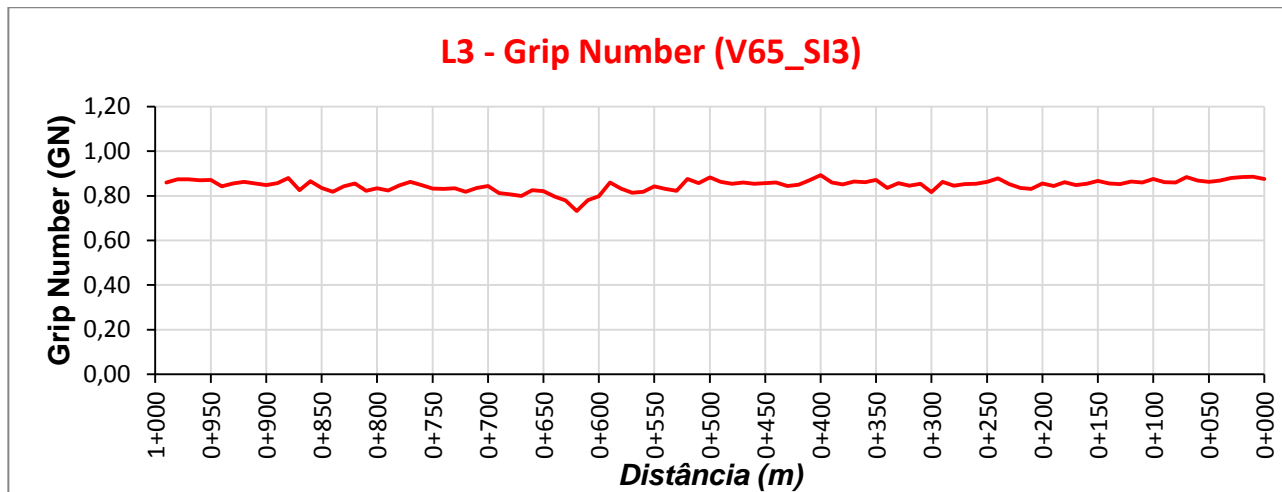
GRÁFICOS A1.70 – LABORATÓRIO 3 – V65_SD3



GRÁFICOS A1.71 – LABORATÓRIO 3 – V65_SI1



GRÁFICOS A1.72 – LABORATÓRIO 3 – V65_SI2



GRÁFICOS A1.73 – LABORATÓRIO 3 – V65_SI3

Anexo II - COMPARAÇÃO DE RESULTADOS

1. VELOCIDADE DE 30 KM/H

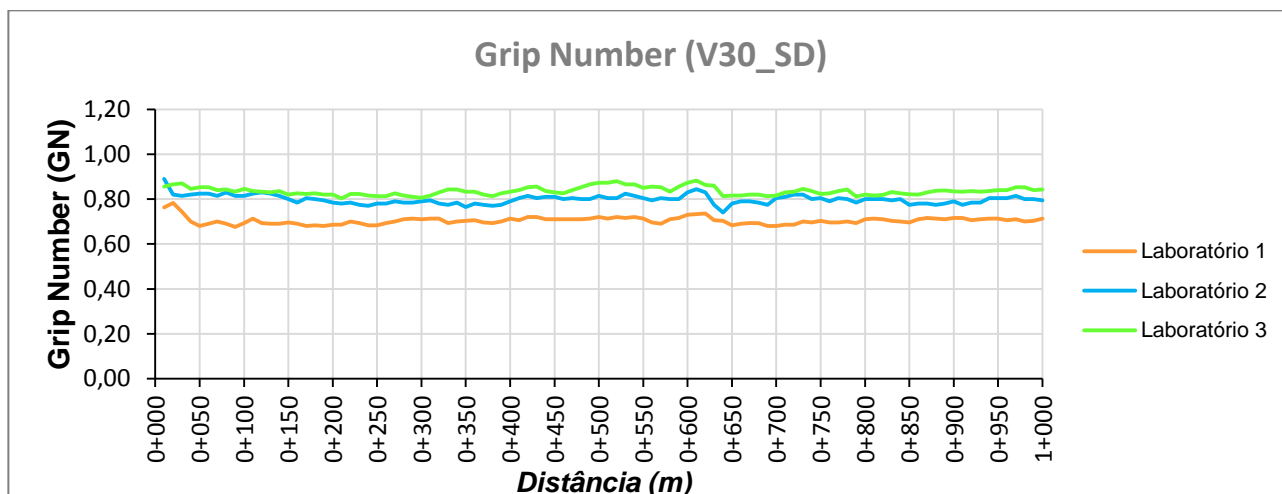


GRÁFICO AII.1 – V30_SD

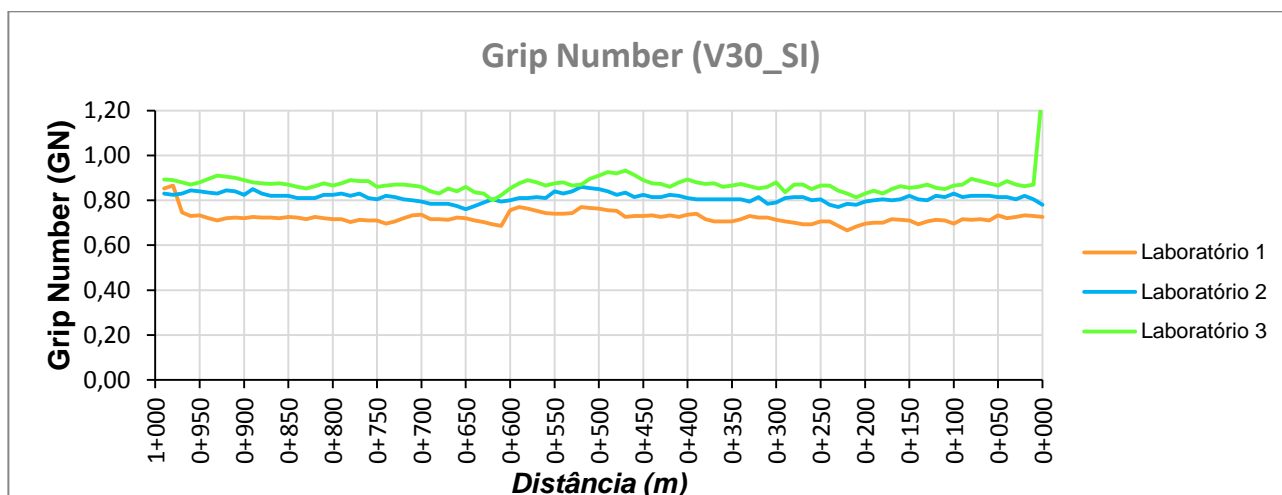


GRÁFICO AII.2 – V30_SI

2. VELOCIDADE DE 50 KM/H

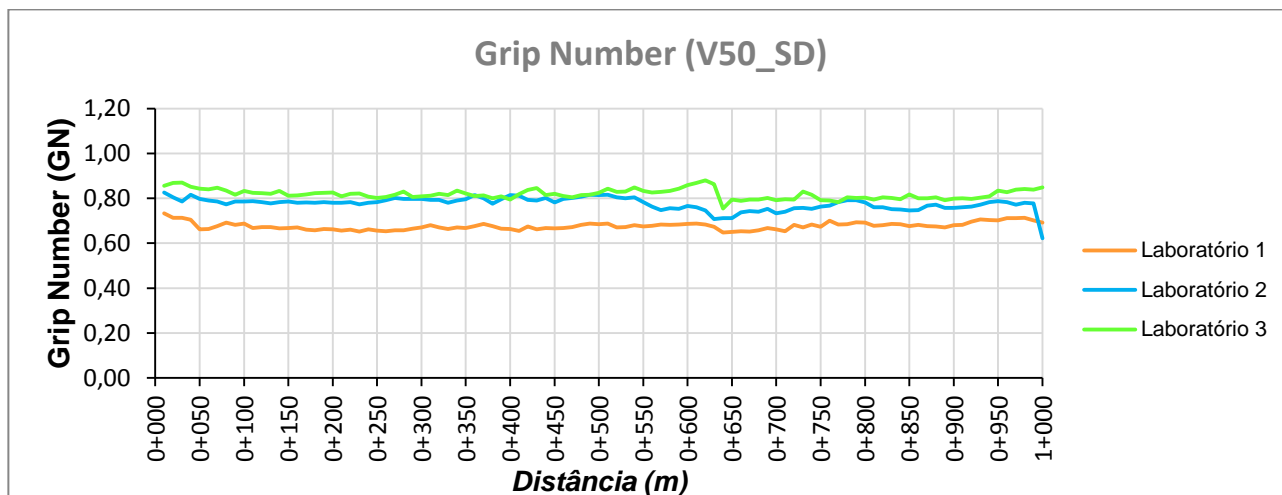


GRÁFICO AII.3 – V50_SD

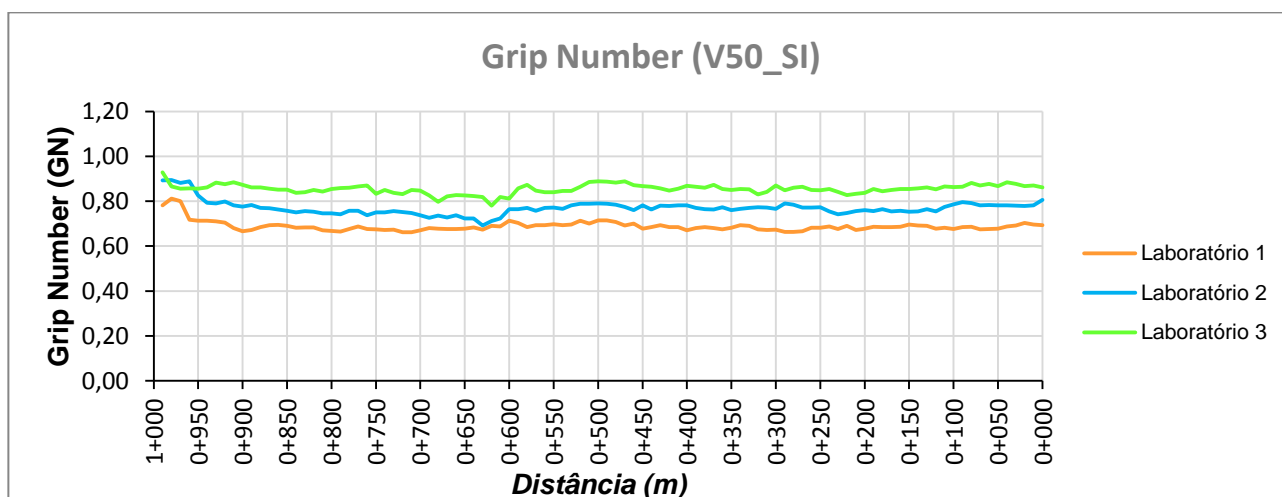


GRÁFICO AII.4 – V50_SI

3. VELOCIDADE DE 65 KM/H

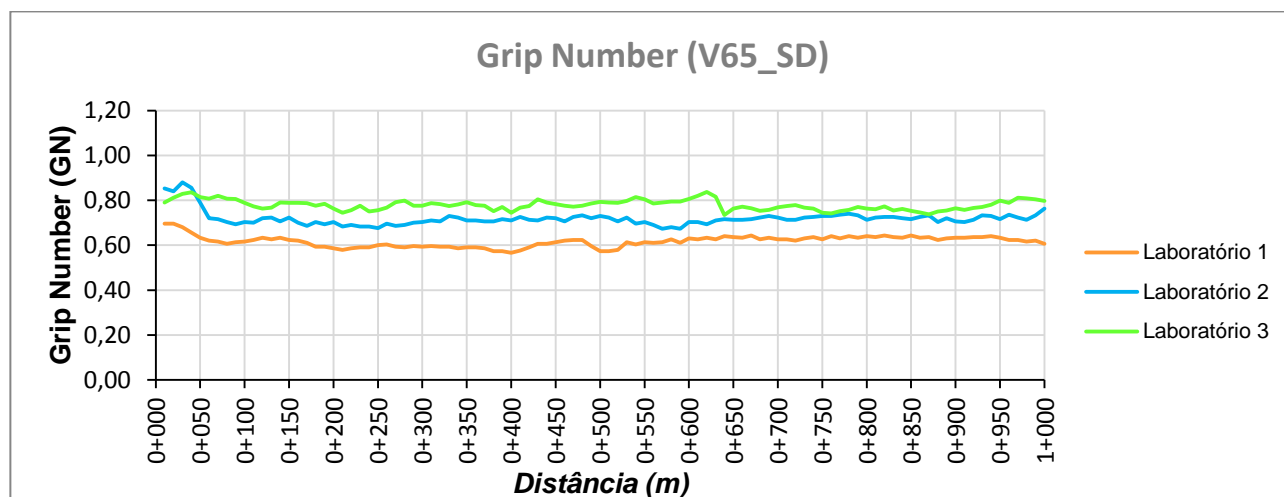


GRÁFICO AII.5 – V65_SD

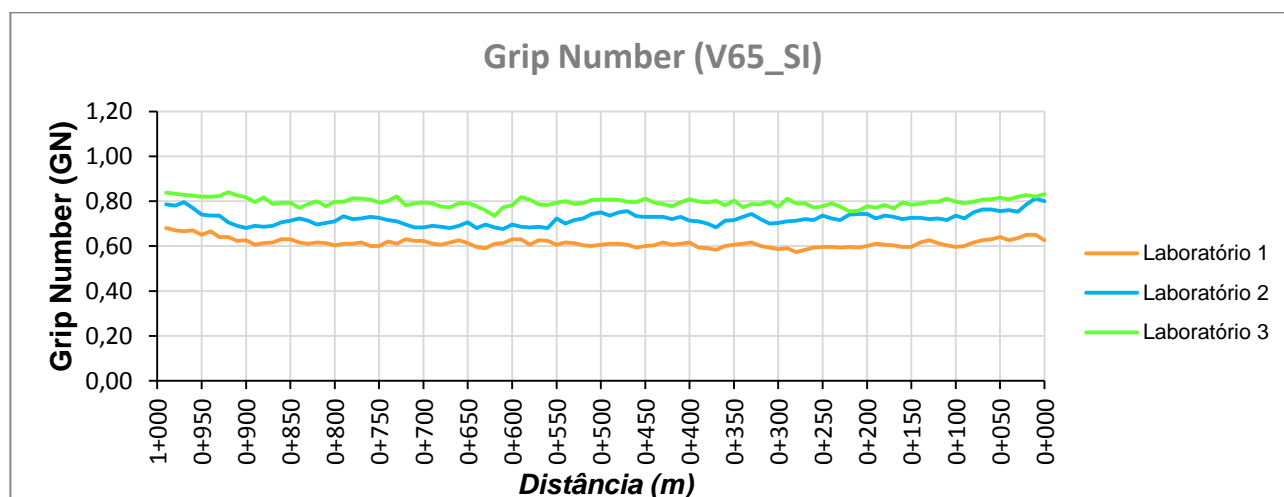


GRÁFICO AII.6 – V65_SI